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PROCEEDINGS OF CONFERENCE ON RECREATION SANITATION AND SAFETY (1ST), HELD AT LITTLE ROCK, ARKANSAS, ON 25-26 MAY 1965

Public Health Service
Washington, D. C.

1965

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PROCEEDINGS

First Conference on Recreation Sanitation and Safety

Sponsored by
Arkansas State Department of Health
in cooperation with
U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Division of Environmental Engineering and Food Protection
(Special Engineering Services Branch)
Division of Accident Prevention (PHS)
Robert A. Taft Sanitary Engineering Center (PHS)
Cincinnati, Ohio
Regional Office, U.S. Department of Health, Education, and Welfare
(Dallas, Texas)

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104

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TABLE OF CONTENTS

Page

Foreword III
Agenda IV

Discussions
  Welcome Address 1
  Keynote Address 3
  Objectives and Purpose of the Conference 7
  Recreation and Public Health 10
  Environmental Health in Recreational Areas of Arkansas . . 17
  Recent Developments in Land & Water Conservation Fund . . . 20
  Arkansas Recreational Area Programs:
    State Planning Commission 26
    Publicity and Parks 29
    Game and Fish 33
    Agriculture and Extension Service 34
    Soil Conservation Service 37
  Planning - State Department of Health Point of View 43
  Recreation Safety 45
  Recreational Area Sanitation:
    Water Supplies 52
    Sewage Disposal 55
    Plumbing and Heating 59
    Food Sanitation 64
    Vector Control 68
    Refuse Handling 71
  Travel Trailer Parking Areas 73
  Sanitation and the Real Estate Developer 80
  Water Sports Safety 85
  Administration of Recreational Areas and Facilities 90
  Conference Resume:
    Safety 93
    Sanitation 96

FOREWORD

The First Conference on Recreation Sanitation and Safety was sponsored by the Arkansas State Department of Health in cooperation with the Public Health Service. The objectives of the Conference were to: develop an awareness within Arkansas of the environmental health aspects of planning, developing, operating and maintaining outdoor recreation areas; to emphasize the role of the Arkansas State Department of Health in recreation sanitation and safety; and to unite the numerous aspects of the recreation environment that relate to both sanitation and safety.

The following Proceedings are based on papers presented at the Conference. The efforts of many persons contributed to the success of this undertaking. It is hoped that these Proceedings will stimulate the interest of other State Health Departments to hold similar Conferences.

AGENDA

FIRST CONFERENCE

RECREATION SANITATION AND SAFETY

May 25-26, 1965

Arkansas State
Game and Fish Auditorium
Little Rock, Arkansas

Tuesday morning, May 25, 1965

Chairman: Mr. Glen T. Kellogg, Chief
Sanitary Engineer
Arkansas State Department of Health

8:00 - 9:00 Registration

9:00 Welcome Address

. . . J. T. Herron, M.D.
State Health Officer

9:15 Keynote Address

. . . Bob Shaidnagle, Chairman,
Board of National Association of Travel Organizations
Lake of the Ozarks, Missouri

9:45 Objectives and Purpose of the Conference

. . . Glen T. Kellogg, Chief
Sanitary Engineer
Arkansas State Department of Health

10:00 Break

10:20 Recreation and Public Health

. . . Malcolm C. Hope, Assistant Chief
Division of Environmental Engineering and Food Protection
Public Health Service

10:50 Environmental Health in Recreational Areas of Arkansas . . . E. J. Easley, M. D.
Assistant State Health Officer

11:30 Lunch

Tuesday afternoon, May 25, 1965

Chairman: Carol H. French
Assistant Director
Bureau of Sanitary Engineering
Arkansas State Department of Health

12:30 Recent Developments in Land and Water Conservation Fund . . . Jerome Anderson
Regional Director
Bureau of Outdoor Recreation
Department of Interior
Atlanta, Georgia

1:15 Arkansas Recreational Area Programs:

State Planning Commission . . . Bert Johnson
University of Arkansas
Industrial Research Center

Publicity and Parks . . . Robert Evans
Arkansas Publicity and Parks Commission

Game and Fish . . . Nelson Cox, Director
Engineering Division
Arkansas Game and Fish Commission

Agriculture and Extension Service . . . George Metzler
Extension Recreation Specialist
Agriculture Extension Service

Soil Conservation
Service . . . Wm. B. Davey
State Conservationist
Soil Conservation Service

2:30 Break

2:50 Panel Discussion

4:00 Planning - State Department of
Health Point of View

. . . J. T. Jaynes, R. S.
Recreational Area
Sanitation
Arkansas State Department
of Health

Wednesday morning, May 26, 1965

Chairman: William E. Holy
Regional Program Director
Division of Environmental Engineering
and Food Protection
Public Health Service
Dallas, Texas

8:30 Recreation Safety . . . Eugene L. Lehr
Deputy Chief
Division of Accident Prevention
Public Health Service

9:30 Recreational Area Sanitation:

Introduction

. . . G. T. Kellogg
Chief Sanitary Engineer
Arkansas State Department
of Health

Water Supplies

. . . Robert Sanders
District Engineer
Arkansas State Department
of Health

Sewage Disposal

. . . Richard Starr
District Engineer
Arkansas State Department
of Health

Plumbing & Heating

. . . James Shelton
Director Plumbing Division
Arkansas State Department
of Health

Break

Food Sanitation
. . . Don Hanns, R. S.
Assistant Director
Food and Drug Division
Arkansas State Department
of Health

Vector Control
. . . Mr. Kent S. Littig
Training Officer
Aedes Ehypti Eradication Branch
Communicable Disease Center
Public Health Service
Atlanta, Georgia

Refuse Handling
. . . J. C. George
District Engineer
Arkansas State Department
of Health

11:30 Lunch

Wednesday afternoon, May 26, 1965

Chairman: J. T. Jaynes, R. S.
Recreational Area Sanitarian
Arkansas State Department
of Health

12:30 Travel Trailer Parking Areas

. . . Joseph P. Schock, Chief
Technical Services Section
Special Engineering Services Branch
Division of Environmental Engineering & Food Protection
Public Health Service

1:15 Sanitation and the Real Estate Developer

. . . William J. Allbright
Mayor, City of Herber Springs
Herber Springs, Arkansas

2:00 Break

2:20 Water Sports Safety

. . . Daniel P. Webster
Recreation Consultant
Division of Accident Prevention
Public Health Service

3:00 Administration of Recreational Areas and Facilities

. . . Bernard T. Campbell
Superintendent
National Park Service
Hot Springs, Arkansas

3:45 Conference Resume:

Safety

. . . William J. Holland, Chief
Education & Training Services
Division of Accident Prevention
Public Health Service

Sanitation

. . . G. T. Kellogg, Chief
Sanitary Engineer
Arkansas State Department of Health

WELCOME ADDRESS - J. T. Herron, M. D.

It is my pleasure to bring you greetings and welcome you to this conference on Recreation Sanitation and Safety. It is my understanding that this is the first such conference of this type that has been held in the United States. The program committee has worked hard and has produced an interesting and constructive program that I hope will be beneficial to all of you. This has been the work of a number of organizations. A number of different groups of people have cooperated in making this program possible. To mention a few -- the U. S. Public Health Service, the University of Arkansas Agricultural Extension Service, the U. S. Soil Conservation Service, the U. S. Bureau of Outdoor Recreation, the Arkansas Game and Fish Commission, the Arkansas Parks and Publicity Commission, the Arkansas Conference of Mayors, the Arkansas State Planning Commission, and the National Association of Travel Organizations.

I was interested in an article that I read in the Sunday paper by the syndicated columnist Sylvia Porter. She was talking about the economic impact of recreation. She said that this had grown from an industry that amounted to from fifty to one hundred million dollars in the 30's and early 40's to where it is now a multi-billion dollar industry and that it does more than just provide jobs for life-guards and beach attendents and people who sell food, and what-not, in recreational areas; that it has spread out much wider to where it now involves entire communities. I think this is especially true in Arkansas and in some of our areas where the economy of the entire community is tied in with the recreational facilities they have available. Of course, to make the economy of the entire State, and of your States, good we need to provide services that people will want and pay for.

Mr. Shaidnagle will probably go into that particular type of thing a little bit more with you, so I won't talk about it any more. I am sure all of you realize that it is very important, and of course that it is the real reason for this conference.

Our Governor has issued a proclamation that I would like to read:

> Whereas recreation is vital to the economy of Arkansas
> and
> Whereas the citizens of this State and Nation enjoy the
> outdoor recreation in Arkansas and
> Whereas preservation of our natural resources is a vital
> necessity to the continuing growth and economy
> of our state and
> Whereas orderly planning for safety and the environmental
> health of tourist and recreation-seeking citizens
> is of utmost importance and
> Whereas the first conference of Recreation Sanitation and
> Safety will convene the week of May 23, 1965,

Now therefore I, Orval E. Faubus, Governor of the State of Arkansas, hereby proclaim the week of May 23, 1965, as Recreation Sanitation and Safety week in Arkansas and urge all of our citizens to join in the proper recognition and observance of this week.

In witness, thereof, I have hereunto set my hand and cause the great seal of the State of Arkansas to be affixed. Done in office this 20th day of May, 1965, and signed by Orval E. Faubus, Governor, State of Arkansas, and Kelley Bryant, Secretary of State.

Thank you.

KEYNOTE ADDRESS - Mr. Shaidnagle

I consider it a high honor to be invited to participate in and address this first Arkansas Conference on Recreation Sanitation and Safety. While I feel lacking in the technical knowledge required in your particular field, I do feel qualified to discuss with you the field of recreational travel, its problems and its growth potential, and most important, the vital part that your programs play, and the development of policies and procedures, so that more persons can enjoy even more the benefits of all outdoor recreational activities.

Let us examine the field of travel and outdoor recreation. Until just the past few years these words were seldom heard and barely discussed by the higher echelons of Federal and State Governments. But now we are in a period of change and varied viewpoints, and most States, as well as National offices and industries, are realizing the vast potential that lies in this field. But there is a prevalent danger, the fact that even we in this great industry do not fully comprehend or understand its effects at the present time and the vast potentials it offers in the future.

Let us look at a few of the known figures pertaining to travel. The travel industry is the third largest in the United States -- $30 billion dollars per year -- and is out-ranked in the national economy only by manufacturing and agriculture. Travel ranks as one of the top three revenue producers in every one of the 50 States and each dollar spent on travel is said by experts to multiply at least three times as it passes through the economy of the State.

A new peak in recreational travel was reached in 1964, and 1965 portends to be even greater. This year will see 37 million land lubbers take to the water in over 9 million pleasure boats; 7 million will water ski; 4 million will snow ski; 8 million will play soft ball; 12 million will bowl, and an estimated 31 million people will hunt and fish.

The economy of our great Nation is at its highest level and projected figures show that the average worker will receive $7500 per year by 1975 as opposed to $5000 today. The population of the United States will reach an estimated 225 million people by 1975. Since 1940, labor has gained 155 hours of leisure time annually, almost four weeks of average employment. And it is predicted that in the next twenty years the average work day will be reduced to five hours through the refinement of automation. I once heard it stated that in 1975 there will be 45% more young people with 15% fewer working hours and 50% more holidays.

In the next decade millions of today's children will reach maturity demanding more and more outdoor recreation. And we must not overlook that in this country today there are over 20 million persons over 65 years of age, many of whom have retired and have the leisure time to seek outdoor activities. These facts briefly outline the tremendous potential in the travel and recreation field but they also pose a serious question: Are we ready for the job that must be done?

Travel is quite naturally a highly competitive field, and I might add here that Arkansas has made giant strides forward to sell Arkansas as a vacation destination, under the able direction of Mr. Bob Evans, my good friend, who is Executive Director of your State's Park and Publicity Commission. But I do believe that it is an indication of the industry's maturity that all State's can work together and exchange ideas. I sincerely hope that we have reached the end of the antiquated philosophy that one State does not dare admit that one of its neighboring States does not have scenic beauty, historical landmarks and recreational areas which are worthy of the attention of the traveling public.

Travel and outdoor recreation is getting a tremendous boost with the establishment of Outdoor Resources Commissions in all States, charged with the development of recreational areas within the States. And domestic travel is in a position of tremendous activity due to the "See the U. S. A." program being developed by the National Government, with the support of President Johnson. This program is being spearheaded by the National Association of Travel Organizations, at the request of the President, and the program is headed nationally by Vice-President Humphrey.

Never before in our history has such high-level attention been focused on travel and the auspicious opportunity to expand the travel market. All elements point to a smashing success if we all work together in a spirit of harmony, cooperation, and understanding for each other's problems as we aggressively carry out the greatest travel promotion ever undertaken. And your facet of this great industry - the planning, development and operation of outdoor recreational areas, and the safeguards required to protect the health, safety, and well-being of the users of recreational regions - was never more important.

The "See the U. S. A." program is a continuing and positive plan, since its varied potentials cannot be fully explored and its objectives attained for several years, but its positive concept allows each segment of the industry to participate to the fullest.

I would like to further point out some facts that show the great potential market that lies within our development programs. The prime travel market is right here in the United States. We are a nation of travelers, so we say, but do you know that recent surveys showed that less than 50% of our people have ever traveled over 200 miles from home? In fact the Outdoor Recreation Resources Review Commission's report to President Kennedy states that only 43% of the people planned or took a paid vacation; 70% to 80% have never been on an airplane; and 60% have never stayed in a hotel or motel. An advance report on the National Travel Survey, conducted by the U. S. Census Bureau, indicates that well over 1/2 million families in this country with annual incomes of $15,000 take no trips. The report was based on quarterly interviews in 1963 with over 6000 families in the 50 States. A trip was defined as travel of at least 100 miles or more, by one or more members of a household, to and from an out-of-town place for overnight or longer.

These figures are being brought to your attention to acquaint you with the magnitude that exists for expansion of the recreational travel industry, and to assure you that the promotional elements of the industry will attack vigorously this great potential, not only encouraging more Americans to enjoy their own scenic beauty, historical sites, and major attractions, and discover their great heritage, but also teaching the benefits of recreational travel to the "no-goers," the arm-chair travelers, and encouraging this vast audience to travel.

We must always remember that the out-of-State visitor is a tax payer but not a tax consumer and therefore is entitled to the finest environment we can give him. Later on in this program you will be addressed by experts in the various fields of health and sanitation, persons well-qualified to discuss the problems confronting this particular phase of this great industry, so I will touch but briefly on some of the major aspects, as they seem to me.

All segments of the outdoor recreation program are very important but the facet you represent are faced with control of water pollution, health and sanitation procedures in places of public accommodations and campgrounds, boating regulations and boating safety, sewage disposal, refuse handling, food handling and sanitation, plus general safety regulations to protect and safeguard the users of outdoor recreational areas within your State.

I am sure that Arkansas will do an excellent job in forwarding its outdoor recreational programs and take full advantage of the vast potentials in the travel field, I certainly wish to commend all of you who are here to participate in this conference, as well as those who are responsible for the forward step taken in organizing this meeting.

Let me repeat, recreational travel finds itself in an enviable position, and will reap the benefits from the auspicious circumstances in which we find ourselves today. With the greatest travel promotion within the history of man laid in our hands, with emphasis from every level of Federal and State Government to vastly increase the market, all of us in travel must work together with all facets of the industry. Certainly no phase of recreational travel is more important to its success than the part you here represent, Recreation Sanitation and Safety.

I sincerely hope that the figures I have quoted and the programs I have discussed will give you an insight into the future of this great travel industry and will be accepted by all of you as a challenge to redouble your own efforts in your particular field to prepare Arkansas for the vast potentials that lie ahead.

I am sure you will carry forward with strong, comprehensive programs and accomplish all needed requirements to reap the full benefits of increased recreational travel. With great confidence in the future growth of the outdoor recreationaltravel programs, the growth of the entire travel industry, and knowledge that your State with this very important conference will move forward and secure its share of the vastly increased markets, let me say once again that I consider it a high honor to have been invited to address you and to wish you every success with this conference and all of your future programs.

OBJECTIVES AND PURPOSES OF THE CONFERENCE - Glen T. Kellogg

Who knows when you plow virgin ground what your objective is? Who knows what you are going to plant? Who knows what you are going to reap? From my position in the State Health Department I have the personal knowledge of praise or condemnation that comes from the tourist to a certain State agency. We have had letters from tourists all over the country that have praised the beauty that we offer them here, but somewhere down in that letter is a little ticky thing that says there is something you need to correct. After you get a few of these, you decide what can be done until you initiate a program. You initiate a program when you put one man on this particular field. You don't know where you are going, you don't know what you are going to uncover. You more or less go in and ascertain what the problems are, what the requests involve, and what you need to do. We did that. We put one man strictly on recreation area sanitation. As a result the demands on his time have been so great that he is seldom in our office. He is almost continuously on the road. This to me spells a need. This to me spells a need to get this problem area out in the open. This to me spells a need to tell to the recreation people what services are available. Where can they get this help? What do they need to do?

God has been gracious to our State. He has given us beauty spots. Unfortunately these beauty spots are not in the best economic position in our State, in that where He gave a dam site He put it in some of our poor country, where the county cannot provide the necessary services. But then the impact of the people that Bob Shaidnagle talked about hits this area. It overloads the facilities there. I have seen boat docks built for anticipated need and underestimate the need. I have seen our State parks embark on a program inviting people to come in when the facilities were not adequate to take care of the needs. I have seen the time when even our Highway Commission did not have the roads built to the areas that the people want to go to. So it comes down to this point of view. We have a resource here, a God-given resource. Thus it behooves us to ask ourselves just what kind of stewards we are.

What are we going to do with this resource? Are we going to invite the people in and let them do as they please, or are we going to build and go into competition? Yes, gentlemen, this is competition. You are in competition with every area in the United States. So ask yourself this -- do you want a single-shot proposition or do you want people to return? It is a matter of pure economics that if you build and if you plan, you get the repeat business, and you encourage people to come back again, and again, and again. I have a good example of that. Some good friends of mine down on the Gulf Coast dropped by my house the other day. They had been up on the upper White River, and had taken one of our float trips. I had a chance to talk to them, and I've known these gentlemen for years. They had been coming up here for five straight years. They always come in June, they always take the same float, they go to the same operator because of the services he provides. That's the kind of business we want. As they left my house they said that they would be back and have dinner with us this fall. I'm tickled to death to have them eat dinner with me as long as they'll go up and fish in our streams and spend their money up there too. This, gentlemen, is what we need.

Now, as to what comes out of this conference for this particular State, it may be only a council, such as Bob talked about, that pulls all of our agencies together on recreation. That may be the only thing to come out; but if that comes out, then this State has benefited, because all of these agencies can get together. Bob spoke about the money being spent in the recreational areas. There is a lot of money being spent. Listen to the State of California, which is passing a hundred-million-dollar bond issue. We can't possibly aspire to things like that, but there is a need in this State for coordination. There is a need in this State for all agencies to have the same aim, the same objective: to get people back to this State to spend their money here. You don't build a restaurant merely to serve a person once; you want him back. The good restaurants have that repeat business; the good motels have that repeat business; the good parks will have repeat business; the good swimming pools and the ideal beach will have repeat business also. All of these things we need to talk about.

Now, during the rest of this program you are going to be talking in specialties. During the next conference that you may hold, you may want the emphasis on another aspect of this. One other thing I want to touch on is how you can have recreation without safety and sanitation. It's physically impossible.

The third point I would make about this objective at which we are aiming is that I am particularly touched by the activity in our north Arkansas region where we are getting people who are seeking retirement homes. These folks are on a fixed income. But they need to have built into their facilities particular aspects of safety. These are the people that are more prone to accidents within the facilities serving them. Why do they retire down here? Because they are seeking peace, they are seeking quiet, they are seeking comfort on a fixed income. Along with that you must include safety. And when you put people on the road, and when you put people in the water, and when you bring people from out of State, thru your State, you domecile them for a day, a night, a week, a month; or you put them on a dude ranch on a horse. All of these lend themselves to sanitation, recreation, safety, and all of them are tied together. You can't go fishing without thinking along the same line. You can't do anything that I can recall without touching on these various aspects. How well you build your mousetrap is something, I think, that we need to open up and talk about. I don't think that your tourist and traveler today is going to be satisfied with jerry-rigged resorts. I think the time is past when you could put up a rustic cabin and put an old rope-and-bucket well out there, and say come and live with us.

Along this line, there is an emphasis now on farm home vacations. You're inviting people to come and live with you a week or two on the farm. You're inviting them to sleep in your bedrooms, you are inviting them to eat in your dining room or kitchen. Now what are you going to do? Are you going to serve them raw milk? Are you going to serve them home-canned vegetables? That's fine enough for you, but think of the responsibilities if someone became ill. You are actually going into a public business. It's not your private kitchen anymore. Some thought needs to be given along these lines before we make a mistake.

Now in our State we've had examples. Hot Springs will probably hate me for this, but we have seen there an example of an uncontrolled development. Through that uncontrolled development, Hot Springs has received a lot of bad publicity about its lakes because someone did not think of sanitation, safety, and recreation as being tied in the same ball of wax. You can go over there today; you can find them drawing their water out of the lake, and ten feet from there discharging their sewage into the lake. Well, they may run their water through the hot water tank and say it's being boiled. But put a thermometer in that hot water tank and it will read 140°. Man, you don't even pasteurize milk at that temperature. It doesn't work. These things we want to prevent.

Now at the present time in this State, Beaver Reservoir is filling, Greer's Ferry is filling, DeGray is under way, Millwood is filling. You've got Dierks, De Queen, and Gillum coming up. You're going to build areas that tourists are going to want to use. Any time you impound water, people are going to be attracted to it. The Game and Fish Commission, whose auditorium we're using, is building fine fishing lakes not only for the people of the State of Arkansas, but for that tourist dollar. In the Sunday Gazette, I was rather amazed to find that the little town of Murfreesboro, a town of approximately 1300 people, attracts one million visitors per year. Murfreesboro probably does not mean much to the out-of-State people but here are the diamond mines. For a small fee you can go and hunt for diamonds. That simple little attraction attracts one million people. There we need to give to the people the services they want so that they'll come back, because not everybody finds a diamond.

But here in Arkansas I think we have a diamond-in-the-rough in our recreational area program. I think, if you will check, you'll find that the payroll is at a million dollars a day, 365 million dollars a year. And that, gentlemen, is big business. So our stewardship is this: are we going to be business men or not? Are we going to accept the stewardship to protect this vital resource of ours so that it can be used not only by us, but our children and our children's children? I think that is the objective and the aim of this Conference. I think from this will come identification of specific areas that need to be discussed at further length in future Conferences.

RECREATION AND PUBLIC HEALTH - Malcolm C. Hope

I appreciate the opportunity to participate in your "First Conference on Recreation Sanitation and Safety." In some respects, it leaves me in a rather anomalous position. Historically, public health workers have been charged with the unhappy responsibility of warning the public of health hazards -- real or potential. The rapid change in the pattern of our environment during the past few decades has provided ample opportunity for such warnings. Air is becoming a problem in air pollution -- so stop breathing. Our foods are becoming implicated in disease entities such as cancer and other chronic disease -- so stop eating. Alcholics Anonymous is in a difficult position since our water supplies have been shown to contain increasing amounts of toxic chemicals -- so stop drinking water. The Surgeon General's report on smoking condemns the practice as hazardous -- so stop smoking. Statistically, we can prove that sleeping is the most hazardous activity in the world, since most deaths occur in bed -- so stay out of bed. No wonder some of us "old timers" in public health become somewhat introverted and self-concious in public!

It is with a feeling of utter relief and tremendous enthusiam that I stand before you today and say: "Recreation and Public Health are synonymous." Here we have a positive program we can support -- one which contributes to the health, physical well-being, and social improvement of our people. There have been abortive efforts to place a monetary value on recreation. It is not difficult to determine the number of dollars that have been spent on fishing rods, golf clubs, swimming equipment, skis and poles, sports clothes, and the thousand and one other items of recreational equipment. Neither is it too difficult to measure the dollars spent for services in connection with recreational activities -- the meals, hotel accommodations, transportation expense, and related items. Recreation is big business and a substantial item in the economy of our country.

Conservative estimates indicate that some $\$20 \times 10^9$ ($20,000,000,000) are spent annually on outdoor recreation for goods and services. But how about the related values? How do we assess the financial return of the feeling of close unity in a family which has shared a recreational experience together? The value of the physical well-being -- "mens sana in corpore sano" as the Romans phrased it -- of the youth who participates in outdoor recreational activities? The value of the social poise and presence which results from the challenges and associations of recreational pursuits? Suffice to say, these values are far in excess of those spent for goods and services.

Recreation is business, and, as may be expected, it produces public health problems which will require the best efforts of professionals in the field of public health to solve. Where one has people, one has environmental health problems. To paraphrase an axion: "Man can within limits control his environment which, in turn, controls man." It behooves us to apply the necessary controls to our recreational environment if we are to realize the greatest return on our investment.

The basic problem is twofold: First, to develop the recreational facilities necessary to serve the Nation, and, second, to maintain them in a healthful condition. Our constituted health agencies have responsibilities in both of these fields. The first requires planning for the proper type of facilities at the local, State, and regional levels. It might be well to identify the general types of facilities to which we are referring. Our respective biases leave us with a distorted picture of what constitutes an outdoor recreational facility. Even I, when pressed, will admit to the fact that golf courses are not the only type of outdoor recreational facility needed. At the local level we need open space and recreational areas in and around urban centers. How many are surprised at the inclusion of "open space" in the same category as recreation? The States are responsible for the development of the more extensive State parks and recreational areas. Historically, the Federal role is the acquiring and preservation of scenic and historic areas of national significance. This is best exemplified by the work of the National Park Service and the Forest Service. Finally, there is a need for sharing at the various levels of government, the development of shorelines, wilderness areas, wild rivers, and wetlands. Even this partial listing gives some feeling for the magnitude of the problem.

The prime responsibility for planning is that of the professional planner. But he must look to the professional health worker for guidance in both the development and execution of the plan. What benefit will result from the development of a beach and ancillary facilities if the health department closes the beach because of pollution? Even in the creation of "open spaces," the health agency can contribute. The open area may serve in various ways to protect health -- as a buffer zone against air pollution from industry, to screen the residential area from the noise and vibrations of expressways, and to simply provide a scenic vista pleasant to the eye and the mind.

May I remind you that health agencies are deeply involved in subdivision control, zoning, and building approvals. Through these mechanisms, they exert a direct and immediate impact on the physical aspects of community development. The "cluster development" has tremendous potential in accommodating housing while still providing the open areas we need. Unfortunately, some of our health agencies have resisted such developments because of problems of water, sewer, refuse, and other alleged health problems. In some respects, these problems are minimized but this is not the subject of my presentation. Over and beyond the assistance on technical problems, the local health agency by virtue of its status in the community can generate public support for needed recreation facilities. It may be somewhat traumatic to assist another group in competing for tax revenues but the dividends will pay off in a multitude of health-related ways.

At the State level, there is frequently a good rapport between the State health agency and the State Park Commission. Unfortunately, in many instances our State health departments do not have the resources available to do the job that needs to be done. At the Federal level there is generally a working arrangement for the exchange of information between the several agencies concerned with recreational problems. This is best demonstrated by the working agreement between the Public Health Service and the National Park Service. We have served as Park Service sanitary engineering consultants for many years; also, I am happy to say, by working in cooperation with the State health agencies.

These basic principles have been recognized in the Recreation Advisory Council's "Policy Governing the Water Pollution and Public Health Aspects of Outdoor Recreation," which states in part (and as printed on the inside cover of your program):

> "It is incumbent upon agenices responsible for the planning, development, and operation of outdoor recreation areas to provide the health and sanitation safeguards required to protect the health, safety, and well-being of the recreation users."
>
> "To achieve that objective, agencies responsible for the management of outdoor recreation areas shall utilize the recommended health standards of the Federal, State, or local public health authority having jurisdiction: and they shall maintain close cooperation and consultation with the appropriate public health authority."

The environmental health problems in recreational areas are essentially the same as those with which we have been dealing on a day-by-day basis. The solutions to the problems may require some deviation from our established patterns of operation. More particularly, they will require an increased degree of ingenuity in their solution, due to the variables introduced into the equation.

Now, let us review the essential items of environmental health involved in insuring a safe recreational area:

1. Site selection - includes proper consideration of drainage, soil permeability, topographical or geological hinderances, accessibility to proposed sources of water supply or sewage works, mosquito and disease vectors, location and possible effects of swamps, streams, lakes on health and safety.

2. Watershed management - the supervision, regulation, maintenance, and wise use of the aggregate resources of a drainage basin to provide the maximum yield of desirable quality, including the control of erosion, pollution, and floods. The principal activities include: construction, logging, grazing, mining, waste disposal, pesticide control, conservation, fire control, and recreational use of watersheds.

3. Water supply - development of sources, treatment and distribution of water supply for domestic and culinary purposes that meets physical, chemical, and bacteriological requirements of the Public Health Service Drinking Water Standards, or their equivalent.

4. Sewage disposal - proper sewage collection, treatment, and disposal facilities to prevent defilement of land and water areas, and to prevent pollution of surface or underground waters or other conditions conducive to the transmission of communicable diseases and to enable maximum enjoyment of water areas.

5. Plumbing - adequate fixtures, approved materials, and proper installation and maintenance procedures to prevent cross-connection and backflow conditions in plumbing systems. Utilization of permanent and mobile comfort stations and portable toilets.

6. Building and housing hygiene - adequate and safe housing, including campsites, cabins, domitories, and other public-use buildings.

7. Food service sanitation - design of kitchen, dining and other facilities to insure that safe handling and serving of food and drink to the public can be accomplished. Certification of sources of foods, frozen desserts, and milk and milk products during operation.

8. Refuse handling - proper storage, collection, and disposal of garbage and other refuse.

9. Swimming pools and outdoor bathing places - design and operation of swimming pools. Evaluation of water quality and bacteriological standards for outdoor bathing places.

10. Travel trailer parking - development of adequate travel trailer parking areas to provide parking accommodations, service building facilities, water and sewage hook-ups and other liquid wastes disposal facilities, including a sanitary station for sewage disposal from holding tanks.

11. Boating - design of marinas to provide adequate facilities for launching, docking, collection, and disposal of domestic sewage, waste oils and fuels, and solid wastes as garbage and refuse. Requirements for operation of boats equipped with marine toilets.

12. Fish cleaning facilities - provision of adequate facilities to control nuisances, odor, and pollution from cleaning fish and disposal of waste products.

13. Insect and rodent control - provision of adequate prevention and control measures during the planning, construction, and operational phases of recreation areas to minimize public health hazards created by insects and rodents.

14. Recreation safety - elimination of accident hazards and promotion of safety.

15. Campgrounds and picnic areas - development of campgrounds and picnic areas for the enjoyment of the recreationist with proper consideration given for environmental health factors relating to this mode of recreation.

The development and review of plans of proposed developments and facilities with the full assistance by qualified public health engineers and sanitarians is recommended as the priority activity. The program should be established to conduct periodic sanitary surveys in recreation areas, including the detailed inspection of facilities and their operation and maintenance.

There are additional variables encountered in many recreation areas which often make it difficult, without modification, to apply designs, solutions, or procedures found satisfactory in the average city or community to provide adequate public health protection.

Sound public health precautions require devices and equipment such as water and sewage treatment plants which may be used only three or four months of the year in a campground, lake resort, or some other kind of park development. Experienced personnel to operate these facilities are often difficult to find for short operating seasons. Special training and reliance on high-quality equipment are needed to insure that health objectives are met. Then, too, the shutdown and reopening of water and sewage systems in winter areas to avoid freezing problems must be taken into consideration. The widely fluctuating visitor load, heavy on weekends, places a demand on water and sewage systems which must be designed accordingly. These comments apply equally to food handling operations.

Complaints are common about vandalism, theft, and thoughtless actions injurious to property and to the general recreation environment. Comfort stations and plumbing fixtures, for example, are special targets of vandals. The removal of trash and litter and the repairing of petty damages to public property are often a major expense. Careless disposal of garbage by visitors is a major contributing factor in the production of flies, air pollution, and other nuisances. Hopefully, the problem of public behavior, which requires the expenditure of large sums of money for enforcement and maintenance personnel, will be solved by education.

Outdoor recreation results in greater exposure of people to dangerous animals, reptiles, and insects which pose a threat to health and safety.

Millions of Americans suffer from hay fever and other allergic reactions. Poison ivy, poison oak and other plants may make control measures an important need in areas to serious infestation.

Among the objectives of many recreational programs is the requirement that the natural scene be preserved or even improved for the enjoyment of present and future generations. This may entail considerable effort in screening or improving the appearance of such man-made structures as elevated steel water tanks, water and sewage treatment facilities, and refuse disposal facilities. Landscape protection may require many sanitary engineering innovations.

Accident Prevention Aspects - The informal, sometimes primitive, facilities and activities associated with recreation areas magnify their accident potentials. The camp, cottage, or resort may not have the advantages of adequate surveillance under building codes and housing laws. Standards and inspection of petroleum products, electricity, water, other utilities, and applicances may be absent.

Old lamps, stoves, space heaters, and cooking utensils too unsafe for continued use in the home may be relocated in the summer cabin. The hazard potential is often increased by use of kerosene lamps, portable gas units, open fires, and makeshift tools. The lack of emergency medical services, firefighting facilities, and other aids magnify the accident problem.

Several program entities within the Public Health Service are concerned with problems of recreation. The Division of Environmental Engineering and Food Protection carries the prime responsibility in the environmental engineering area in providing advice, consultation, and assistance through its Regional Offices, in cooperation with State and other health agencies. The need for planning has been recognized through an expansion of training courses directed toward environmental health planning for the community, an activity also carried on by the Division. As a means of providing basic information, our Division has recently issued a manual, "Environmental Health Practice in Recreational Areas," PHS Publication No. 1195. The information and criteria contained in the manual should be useful to many in connection with the planning, design, regulation, operation, and maintenance of recreational areas.

The Division of Water Supply and Pollution Control has broad interests which relate directly to recreational uses of surface waters. The successful accomplishment of their mission should open shoreline areas for recreational use which are currently unavailable because of pollution. The primary role of the Federal Government is to serve as a catalyst in stimulating the development of recreational areas. Specific examples of contributions in this respect relate to the "Open Space Act" for urban areas of 1961, which provides Federal funds which might be used for the development of open space. The Land and Water Conservation Fund Act, which became effective January 1, 1965, provides Federal grant assistance for the creation of State and local recreational areas developed on the basis of a comprehensive State-wide recreational plan.

The President, in his recent messages on conservation, resources, and natural beauty, alluded to the need for a progressive program to provide the recreational facilities needed to serve our growing population.

With Growing recognition of the needs, I am confident that the resources, motivation, and financial support will be found to stimulate development of adequate recreational areas nationally. The economic benefits are self-evident. One of the major factors in the development of the Appalachia program is to realize the recreational potential of the area and communities therein. Arkansas is blessed with a plethora of recreational facilities. It is gratifying to note that your State is considering a program directed toward development of its potential in these areas.

ENVIRONMENTAL HEALTH IN RECREATIONAL AREAS OF ARKANSAS - Dr. E. J. Easley

Arkansas is unique in that it possesses an abundance of recreational area sites. Some have been developed, many are virgin lands yet to be touched by the **developer's hand.**

This State is not unlike many of our sister States which lack sufficient funds for the planning and development of these areas. Increased Federal assistance in the development of outdoor recreational areas will greatly enhance progress in this State.

Since 90% of all Americans participate in some kind of outdoor recreation and 90% of all outdoor recreation is associated with water, Arkansas has seen only a minute segment of the vast outdoor recreation-seeking public.

Recreation and tourism already rank approximately fifth in total income in this State. The future looks even brighter.

But with all of its economic benefits, outdoor recreation and tourism create problems of providing a good environment which will induce repeat visits, acquire new visitors, and provide a healthful atomosphere for those seeking a retirement home.

From the standpoint of environmental health in the recreational areas of Arkansas, planning, provision, and maintenance of facilities in recreational areas have not, in many instances, kept pace with the rapidly increasing visitor load to various types of recreation areas. As a result, optimum use of such areas is not always possible and deterioration of overtaxed facilities is frequently encountered. Where facilities such as water supply, sewage disposal, and refuse handling are inadequate or totally lacking, the visitors will fend for themselves, often creating conditions which are grossly unsanitary and create serious environmental health hazards for themselves and neighboring community residents. Unless corrective action is taken, this condition will be further aggravated, since within the next 40 years the population of the United States is expected to double while demands for outdoor recreation are expected to triple. Investment in adequate and efficient facilities to provide proper environmental conditions is an important aspect of recreational area development.

Lets look a little closer at specific problems. One of the most critical situations in our recreational areas is the indiscriminate parking mobile homes and travel trailers, and the sewage disposal facilities associated with them.

The aesthetic appearance of some of our recreational areas is being damaged by the types of dilapidated trailers with lean-to structures attached, converted bus-bodies and unsightly cabins in need of major repair. The need for travel trailer sanitary stations is urgent in all of our recreation parks.

Comfort stations in many of our recreation areas are inadequate and provisions must be made to provide additional toilet facilities in overflow areas. Maintenance of these facilities is of paramount importance in order to keep down obnoxious odors and fly breeding.

Garbage disposal in camping areas and other recreational sites leaves much to be desired. Adequate containers, with fly-proof and animal-proof lids, are necessary to insure a pleasant atmosphere. Lack of frequent collection and disposal, especially in peak-use periods, has also been noted.

The State Department of Health is particularly concerned with food handling in public eating and drinking establishments associated with recreational areas, especially in organizational camps and seasonal operated food service facilities. Lack of personnel to make frequent inspections accents this concern.

At this point I would also like to mention the farm-family vacation program. This program is looked upon with a great deal of interest by farmers wishing to supplement their income. But as a word of caution, may I emphasize the need for clear and complete understanding, by the farmer, of the rules and regulations pertaining to public eating and drinking establishments, which prohibit the sale of home cooked food to the public. I mention this not entirely because of the regulations prohibiting it, but also because improperly cooked and protected food is a reservoir for foodborne infections.

Much can be said, and I am sure will be, in this Conference, regarding the subdividing of property around recreational areas, particularly multi-purpose reservoirs and other lakes. It is human nature to want to build as close to the water as possible. Those lots which have water frontage are more desirable, therefore, the developer tries to "squeeze" in as many as possible. This often leads to problems of adequate space for sewage disposal and water supply, particularly with respect to the adjacent lots. It is imperative that all developers familiarize themselves with the services of the Arkansas State Department of Health regarding the development of subdivisions and recreational areas.

In conjunction with the development of lands around recreational areas and retirement villages, is the problem of the do-it-yourself builder. More often than not these projects are done without regard to the State plumbing code, perculation tests to determine adequate absorption area, or minimum septic tank size.

This type of construction usually deterioriates in a few short years, if it ever operates effectively; then additional expense is necessary. This not only creates an unsanitary condition for the occupants but an added cost to the uninformed purchaser, should the builder decide to sell, which is the case many, many times.

The same regulations and minimum standards of the State Department of Health will apply to week-end cottages as well as residences.

Boatdock sanitation is another area of concern. We have docks in this State where water for public use is taken from under the dock while sewage is being discharged in the same area.

Fish cleaning areas on docks are located, in many instances, in critical areas. Potable water should be provided at all fish cleaning facilities.

There are many other problems associated with boatdocks, such as food service, toilet facilities, and enclosed fishing docks. There are many considerations which should be thoroughly explored before planning food service or toilet facilities on boatdocks. Plans for such installations must be submitted to the State Health Department for approval.

Programs of boating safety and other water sport safety is an all-important area of emphasis by the local community. Not only water safety, but also camping safety and all phases of activity associated with recreation. User safety should be incorporated in the development of recreational areas.

Arkansas is conducive to the breeding habits of the Aedes egypti mosquito, carrier of yellow fever virus. Therefore, vector control will be an important aspect of recreational area planning and operation. Ticks abound in the woodlands of Arkansas. Ticks in Arkansas account for 56% to 64% of the sources of Tularemia in humans. Contact with rabbits accounts for roughly 30% of the human cases.

In closing, may I emphasize the importance of consultation with the State Health Department or any other agency which can help advise you on projects which you are planning.

Recreation and tourism is a growing commodity in Arkansas. It takes many years to build a good repeat tourist trade, but only one visit to an unsanitary environment to loose all that has been gained.

RECENT DEVELOPMENTS IN LAND AND WATER CONSERVATION FUND - Jerome Anderson

Upon signing the Land and Water Conservation Fund Act on September 3, 1964, President Johnson stated: "The Land and Water Conservation Fund Bill assures our growing population that we will begin . . . to acquire on a pay-as-you-go basis, the outdoor recreation lands that tomorrow's Americans will require."

This legislation has its foundation in the studies of the Outdoor Recreation Resources Review Commission, whose report was submitted to the President of the United States, January 31, 1962. The Commission recommended that a separate agency be established in the Federal structure as a coordinating focal point -- the Bureau of Outdoor Recreation was established in 1962.

Other items recommended by the Commission were: (1) the establishment of a system of user fees at Federal recreation areas; (2) a stepped-up program of Federal acquisition of recreation areas; and (3) a substantial program of Federal grants to the States and their political subdivisions for the acquisition and development of outdoor recreation facilities. Legislation was introduced into the 87th Congress aimed at accomplishing some of these purposes, but failed to pass. However, with the 2nd Session of the 88th Congress, Public Law 88-578 was enacted and signed into law on September 3, 1964.

The Land and Water Conservation Fund became effective January 1, 1965. The life of the Fund is limited to 25 years. Revenues which are earmarked for a Land and Water Conservation Fund derive from three sources: Modest entrance, admission, and user fees at Federal recreation installations or areas; the net proceeds from the sale of Federal surplus real property; and the revenues from existing Federal taxes on motorboat fuels. There is also a provision for Congress to advance up to an average of $60 million a year to the Fund, starting the third year and ending the tenth. If this is done, the advance will be repaid with one-half of the other revenues coming into the Fund starting the 11th year and continuing until the advance has been repaid.

Normally 60 percent of these moneys will go to the States as matching grants for planning, acquisition, and/or development of recreation lands, waters, and facilities. Forty percent of the moneys can be used for certain Federal purposes. Portions may be used by the Forest Service, the National Park Service, and Bureau of Sport Fisheries and Wildlife for the acquisition only of certain types of recreation lands. In addition, a portion of the Federal share of the Fund can go into the miscellaneous receipts of the Treasury as partial reimbursement for capital expenditures for recreation and fish and wildlife enhancement at Federal water projects.

Congress can alter this division of funds by its Appropriation Acts, and during the first 5 years of the Fund the President can adjust the apportionment between the States and Federal Government up to plus or minus 15 percent. No money is automatically available. All must be appropriated by the Congress, and this Act gives no additional acquisition authority to any Federal agencies.

The entrance and admission fees which are expected to contribute a sizable percentage of the Fund may be charged only if all four of the following provisions apply: (1) The areas to which fees are to be charged must be designated and properly posted on the ground; (2) the areas must be under Federal administration, not areas that are under lease to States or Municipalities or are administered by other than the Federal agencies; (3) the recreation facilities or services provided must have been provided at Federal expense; and (4) the designated area must be primarily for scenic, scientific, historical, cultural or other recreational purposes.

The Act and its legislative history make it very clear that no recreation fees can be charged: (1) for the use of any water; (2) for travel by a private non-commercial vehicle on any Federal Aid Highway, national parkway, roads in national forests or on roads on public land that are commonly used for through travel; (3) for access to private inholdings; (4) for activities on Federal lands which are not related to recreation; and (5) for a Federal hunting and fishing license.

The Act itself, the President's Executive Order of February 26, which provides for the establishment of user fees pursuant to the Fund Act, and the Secretary of Interior's regulations of March 3, providing criteria and fee schedules to be used in administration of the Act, are the three key documents.

Last Fall, we met with representatives of all States to review in depth the Fund Act, its provisions, limitations, and proposals for administration.

The requirements for a Comprehensive Statewide Outdoor Recreation Plan have been out now for several months.

Nearly all States have formally designated liaison officers to deal with the Department of the Interior, in the administration of this Act. In Arkansas, as most of you know, Ted J. Morley with the Arkansas Planning Commission is that man.

I am advised by the official representatives for the State of Arkansas that our Regional Office can anticipate receiving the first plan for the State by the first of June. This will be the first State within the Southeast Region to submit a plan.

You will note here that I have used the terminology, first plan. This is to point up that any comprehensive Statewide Outdoor Recreation Plan is a fluid, dynamic instrument that must be continually updated as new information becomes available; as new demands are realized; as developments, acquisitions and planning take place; and certainly as funds become available. In addition, priorities may also change.

The Secretary has delegated to the Bureau of Outdoor Recreation his authority for administration of the State phases of the Act, except for the apportionment of funds to the States. He has also delegated his responsibility for the Federal phases of the Act except that Departmental agency heads who will adminsiter designated Federal fee areas have the responsibility for making specific designations, for posting such areas, and for establishment of specific fees within the general schedule of fees issued by the Secretary and subject to coordination authority delegated to the Bureau of Outdoor Recreation.

The Administration recommended full funding of the Act for fiscal year 1966, which is estimated at $125 million. Of this amount, about 75 million dollars was recommended to be available to the State on a 50-50 matching basis for planning, acquisition, or development of recreation areas, and 55 million dollars for acquisitions by the National Park Service, Forest Service and Bureau of Sport Fisheries and Wildlife. The final decision, of course, is up to Congress.

A formula for State allocations has been recommended to the Secretary after exhaustive exploration of possibilities. This formula would meet the statute's requirement of two-fifths equally to each State and also recognize the other factors specified in the statute by allocating 40 percent on the basis of population, 5 percent on the basis of out-of-State visitor use, 10 percent in relation to the Federal resources and programs in the State, while reserving a 5 percent contingency to meet needs not otherwise provided for.

We recently issued clarifying details about State acquisition and development projects and procedures for guiding States in making grant applications for planning, acquisition, and development.

Translating the Fund Act into an operational reality entails a tremendous amount of work by both the administering and benefiting agencies, numerous legal interpretations, many policy decisions and, of course, appropriations by the Congress.

Among our major problems as they appear to me at the moment are the following: We shall need to respond properly to the President's directive in the Natural Beauty Message to give priority attention in administration of the Land and Water Conservation Fund to serve the needs of our growing urban population.

Also, the President in another public statement has said that the Land and Water Conservation Fund will help States and Cities set aside spots of beauty for recreation and pleasure.

It is clearly not the intent of either the Congress or the President that the Fund Act shall operate only in the country, nor apply only to rural areas.

County and municipal Governments are expected to participate through the States in the Fund Act and may do so to the extent that their proposals are included in the State-wide Recreation Plan.

Since the States and we are pioneering in this planning work, the task will not be easy.

We have estimates from the States that about $300 million of State money will be available for Federal matching during fiscal year 1966. That is far in excess of the amount needed to match the prospective $75 million of Federal funding on a 50-50 basis.

Almost daily new questions arise as to the types of acquisition or development activities that may be eligible for Federal matching. These include such questions as filtration plants to make reservoir water suitable for drinking after it has been used for swimming, the question of school playgrounds, of concert and drama theaters, State outdoor museums, payment of the recreational value of water supply reservoirs constructed by local or State governments, and the eligibility of State school lands. It is frequently asked whether donations of property or money to State or local governments are matchable. The matter of exchanges has arisen. There are numerous others. Some of the proposals obviously seem within the intent of Congress. Others are borderline, or obviously out of the ball park.

In this first year or two of operation, it seems to me the rule of reason must apply with respect not only as to detail and comprehensiveness of the State plans, but also as to the scope of activities proposed and the numerous other questions of geographical coverage, emphasis, participation and interpretation.

There are pressures for fast and loose administration, and sometimes it seems to me, to declare everything eligible except the kitchen sink.

On the other hand, we must interpret the statute in accordance with its specifications and within the intent of Congress as we understand it. The administration of this Act, because of the large sums of money involved, will be subject to the closest scrutiny by Congress and Federal auditors. Again, I emphasize that both Federal and State agencies must exercise skill, patience and restraint in striking the proper balance.

The Recreation/Conservation Sticker went on sale for the first time a few weeks ago for $7.

Perhaps the greatest uncertainty at the moment, and one which goes to the heart of the success of this program, rests with the sale of the Recreation/Conservation Sticker. Possession of the sticker will excuse a person who enters a designated Federal fee area, along with anyone who accompanies him in a private, noncommercial automobile, from paying any other entrance fee.

It is my hope that this Conservation Sticker will become the personification and symbol of the "New Conservation." It is not only a bargain to those who utilize Federal recreation areas, it is also a way to do your part - a way for recreationists to pay a share of the benefits they enjoy.

Our estimate is that about 5 million of these stickers will be sold during the first year and arrangments are being made for the sale of the stickers by many Federal agencies through hundreds of outlets, and, also, through State agencies, we hope. In addition, there will be private organizations helping with the sale, such as the American Automobile Association and its affiliates -- 800 nationwide.

Frankly, I speak to you on this point as a salesman, as a salesman for the New Conservation, as a salesman for the Land and Water Conservation Fund Act, as a salesman so that States and local governments will be able to acquire and develop recreational facilities that we need now and will need in the future. This is the main pay-as-you-go feature of the Land and Water Conservation Fund Act.

The question of Federal acquisitions will continue to be both an opportunity and a problem. Such proposals must undergo the most careful scrutiny. This was one of the most controversial features of the bill. Already questions have been raised with respect to the extent of inholdings to be acquired in units of the National Park System, and the endangered species aspects of the Act, and there has been some thought in a few States as to whether State enabling acts, which permit implemention of the Weeks Law, should be limited.

Completing the requisite comprehensive Statewide Outdoor Recreation Plan is a necessary first step. To do this requires balance in the State plan, activity-wise, among various levels of government -- State, county and local.

This, then, is the essence of the Land and Water Conservation Fund, a very brief mention of the Recreation/Conservation Sticker and the important role it plays to make the provisions of the Fund a reality -- a reality for Arkansas and all of the citizens and communities within the State.

The field of conservation, including outdoor recreation, is dynamic. New dimensions are being indentified; new facets are being explored. Monday and Tuesday of the week, as a matter of fact, concurrent with this meeting, the White House Conference on Natural Beauty is taking place. I am sure the results of this Conference will spotlight even newer facets in conservation and outdoor recreation.

Outdoor recreation is a complex and rapidly expanding aspect of our modern society. The impact of outdoor recreation on an area's economy is widespread. Environmental health factors must be recognized early and continuously in outdoor recreation planning, development and operation. It is indeed encouraging to see demonstrated by this Conference, an awareness that health factors are an absolute necessity when we are working for the safety and well being of our fellow citizens. The disciplines and groups you represent here must be full partners in the outdoor recreation effort.

The Bureau of Outdoor Recreation will be pleased to work with you in any manner that we can to assure the Land and Water Conservation.

STATE PLANNING COMMISSION - Bert Johnson

I'm an economist at the University of Arkansas, with the University's Industrial Research Center here in Little Rock. As such we are under contract with the State Planning Commission to do certain types of research for them. Since Bill's been called out of town to San Francisco, he asked me if I would give this presentation. This is perhaps a disadvantage to you but an advantage to me because I can't answer questions that you might have about the Planning Commission. I can only give you information that he gave to me.

In the fall of 1962 work began on an inventory and preliminary plan for the State. This work was initiated by the newly formed Arkansas Planning Commission and was partially financed by the Urban Renewal Administration of the Housing and Home Finance Agency, under the Urban Planning Assistance Program. This Inventory and Preliminary plan considered all aspects of the State's resources, both the human and the natural, and took into consideration changes in period, having to do with the demograph and economic factors. I might add at this point that the University is responsible for most of the research involved in this, but there was also a planning concern under subcontract to do the planning, the actual physical planning. For analytical purposes, the State was divided into five regions: central, north, south, east, and west. Population and employment projections were made for these regions, as well as for the State. Important considerations in the preliminary plan inventory were tourism and recreation in the State and in the regions.

In developing the plan and conducting the inventory, and subsequently compiling the publication, separate treatment was given recreation by way of emphasis. The recreation plan developed included these factors among others: general trends in recreation, local and national demand for outdoor recreation, and the attractiveness of Arkansas' parks and outdoor recreational facilities. The plan was eventually developed on a regional basis, within the State, using the five regions. It defined the various use classifications within these regions and indicated proposed recreational areas and the type of facilities in each. It also included recommendations for implementation. From this it can be seen that the Arkansas Planning Commission was already moving toward a comprehensible outdoor recreation plan. This report on recreation was published in May of 1964.

One might say that the Planning Commission actually anticipated what would be required under the New Land and Water Conservation Fund Act if the State were to participate in the benefits. If I may, I would like to briefly reiterate some of the points in the Land and Water Conservation Fund Act that relate to the State because they do become so much a part of what the State Planning Commission will be doing with respect to recreation.

First of all, what about the purpose? The purpose of the Act, as we have been given to understand, is to preserve, develop, and assure accessibility to outdoor recreation and recreational facilities for all citizens in order that they might strengthen their health and vitality. I mention that word health to this group especially. Under the Act, how would this purpose be achieved? First of all, as has been pointed out already, it would provide funds and authorize Federal assistance to States so that they can plan, acquire, and develop needed land and water areas and facilities. The Secretary of the Interior was authorized to provide the funds from moneys available for State purposes, but the payment was subject to terms and conditions deemed appropriate by him to carry out the purposes of the Act. Again, as was already mentioned, the apportionment was on the basis of two-fifths of the fund equally divided among the States and three-fifths on the need of the various States, as designated by the Secretary to best accomplish the purposes of the Act. The total allegation to the State in any event cannot exceed 7% of the annual amount available, so that no lion's share will go to any one State. The Secretary is the man who notifies each State of its apportionment for the given year.

Now what does the State need to do in order to get in on this program? Well, first of all, it must match Federal funds on a fifty-fifty basis. And it must submit a Comprehensive State Plan. This is required before there is consideration by the Secretary for financial assistance. The Secretary must judge whether the plan is adequate and if it incompasses and promotes the Act. It must contain first of all the name of the State agency with authority to represent and act for the State in this matter. Second, it must contain an evaluation of supply and demand for outdoor recreation resources and facilities as created by residents and out-of-state visitors. Third, it must contain an implementation program for the plan. And fourth, it must contain other necessary information as determined by the Secretary.

Now the State Comprehensive Plan must take into consideration other relevant Federal programs and must coordinate and correlate with the State regional and local plans that may already be underway. In order to get this plan off the ground, the Secretary is authorized to provide financial assistance to actually prepare the Comprehensive Plan. The Secretary may provide financial assistance for acquisition or development only if a given project is in accord with the State Comprehensive Plan.

There can be no double payment. If the Housing and Home Finance Agency, for instance, were already putting money into some project, the Bureau of Outdoor Recreation could not also put up money. One very important point that hasn't been mentioned is that the State must provide written assurance that its share of the financing will be forthcoming.

What has Arkansas done? Around the first of January, Governor Faubus designated the Arkansas Planning Commission as the liaison agency with the Bureau of Outdoor Recreation, Department of Interior. Subsequently, Act 116 of the 1965 Regular Session of the General Assembly authorized the

Arkansas Planning Commission to prepare and maintain a comprehensive plan for the development of outdoor recreation resources for Arkansas. The Act permitted the Planning Commission to apply to the Federal Government for participation in, or receipt of, aid for outdoor recreation. In obtaining such benefits, the Planning Commission is to coordinate its activities with, and represent the interests of, all agencies and subdivisions of the State having interest in planning, development, maintenance of outdoor recreation resources and facilities. The Planning Commission is to receive and disperse funds to the various State agencies or subdivisions, and make no commitment until it has determined that sufficient matching funds are available.

Act 116 also specifies that once the plan is developed. the developing authority will operate and maintain the development at its own expense. On May 4, President Johnson signed a supplemental appropriation bill for the remainder of Fiscal Year 1965. I understand this gave Arkansas some 190 thousand dollars as its share. I understand that next year the amount will be $1.2 million, the subsequent year $1.7 million, and the third year $2.2 million, at which point it will level off.

Mr. Anderson has mentioned that Arkansas has not complied with requirements of the Comprehensive Outdoor Recreation Plan, nor has any other State in the Southeast District. I think, because of the preliminary plan and inventory I mentioned earlier, perhaps Arkansas has the jump on some of the other States. Mr. Halfacre told me to pass on to you the fact that on May 30 they will submit data in support of a preliminary outdoor recreation plan. Just how much of the total requirement for a comprehensive plan this represents, I am not able to say.

What are some of the projects that are more or less in the offing which will be taking advantage of this opportunity? First of all there is project, apparently in considerable detail, on the State park system itself. I'm sure Mr. Evans will bring this up. Second, the City of Parkin is interested in developing the Toltec Indian mounds that are found in the vicinity of that city. Down in Little River County they want to develope some facilities on Millwood Reservoir. The City of Clarksville is trying to develop recreational facilities on Dardanelle Reservoir, and last but not least, the metropolitan of Little Rock is hoping to expand and develop the park system in the Pulaski Metropolitan area.

One thing that may be of interest to people in the health field, and Bill told me to especially mention this, is that in order to get funds, the Planning Commission is going to require that communities have master plans that will encompass, among other things, the health and sanitation aspects of recreation.

The Planning Commission intends to have a new staff member in approximately 30 days who will handle all the planning and funding problems. I am sure that he will be a man who will cooperate in this effort of considering the health and sanitation aspects of this problem.

PUBLICITY AND PARKS - Robert Evans

If you are interested at all in Arkansas and tourism and wanted to get the full story, and you read every word that came out, I believe, Sunday morning, you got a pretty good idea of what is happening in, and the great impact that tourism is having on, the State of Arkansas. There are some wonderful articles in there, and certainly a lot of information concerning what we are going to speak of.

There are a lot of definitions for tourism and the tourist industry but I have found one here that was presented by the Federal Reserve Bank of Philadelphia. I read this before, but I think it bears repeating.

> "Travel, recreation and vacation is an industry like any other. It conforms to no one type of pattern or mold and the industry is hard to pin point but its growth has certainly been prejudice. The industry is confined to no one place, no one class of clients and no one type of services, it is easy to enter and easy to leave. It's proud of its accomplishments but not always sure it wants to be an industry."

Arkansas' image in the world of travel is composed of individual images each representing the personality of a single community, your community and mine. Constant study must be carried out all the time by our Commission to weigh the popularity of our various districts and communities, and they must be compared one with the other. Tourist clinics are being held in those communities that are less popular than others. Certain communities need to be changed through face-lifting by exploiting what attractions they have or by creating others where there is a potential.

In a recent address, Mr. Summerset Waters, who is with the NATO Research Council, National Association of Travel Organizations, noted that the ultimate solution in attaining a high degree of tourist interest in the various States must be developed on a local travel community level, and it certainly requires leadership. Such leadership should come from those industries which have most to gain from increased domestic travel, particularly the oil, tire and automotive and other industries serving the automobile traveler, because 90% of our Arkansas tourists travel by automobile. These industries, together with the State Government, seem to be in the best position to provide the leadership that is required.

We need research and economic studies, the kind you folks are interested in, to provide the statistical data needed to make the travel industry visible, and that is what our Commission is trying to do. One of the most important requirements for a successful tourist year, we have found, is a longer season. Adding a few weeks to the season can have a remarkable effect on the profits of the travel-serving firms, and one of the most promising and rewarding future programs involving State and local support will be activities which will increase the length of the season and selected recreational areas. That is something that we have installed in our own parks system this past year, opening a month earlier and closing a month later.

We must preserve and even exaggerate our regional differences. We must preserve and cherish the unique cultural heritage of each region and we must restore some of the pageantry of our Arkansas life to create interest. The preservation of unique, natural and man-made attractions, the use of trees, flowers, ponds and fountains, and shrubs for increased beauty, they are all important.

To summarize, I think you'll agree that we have a vast unexploited economic potential here in Arkansas in our travel and vacationland market. Our Commission trys to keep a constant finger on the pulse of the traveler to protect the reputation of our State and the areas deriving their profit from the tourist business.

A National Geographic survey of several of our neighboring States, including Arkansas, showed that vacationers to these States keep on moving. They are more interested in scenery and historic sights than in just setting and resting. Naturally we want them to travel from place to place, but we want them to stay within the confines of our Arkansas boundaries. Therefore, we must try to create and exploit what natural and artistic potential we possess so that we can provide them with these areas of interest.

Visitors vary in cultural and recreational desires, in income and sociollogical behavior, so we must have something for everyone. Tourists who relax in the mountains are different from those who take pride in the number of turn-styles they have creaked over a summer's pattern. The motivation of the trip is entirely different and so are the income brackets and patterns of travel. Thus we must have a different incentive in marketing techniques for each type of visitor. Since the State's tourist and recreational resources cannot be extracted and processed and shipped to market in a can or a container, it is evident that the process must be reversed and the customer brought to the product. That is the job of the Arkansas Publicity and Parks Commission, with the help of the entire populace. We are interested in seeing Arkansas grow as one of the leading States in the tourist and recreation industry. At the present time Arkansas is seventh in the Nation in tourist attendance. Most people seeking our recreation want water to sit by, to swim in, to fish in, to ski across, dive under and, to run their boats over. Swimming is now one of the most popular outdoor activities and is likely to be the most popular by the turn of the century. Boating and fishing are among the top ten activities in Arkansas. Camping, picnicing and hiking also are high on the list, and all of them are more attractive near water sights.

Although the chief reason for providing outdoor recreation is the broad social and individual benefits it produces, it also brings about desirable economic effects. The provision for outdoor activity along its waterways will enhance a community's value by creating a better place to live in and by increasing land values. In some underdeveloped areas it can certainly be a mainstay of local economy. It is a basis for big business, as the thousands upon thousands of people seeking the outdoors generate millions of dollars a year for goods and services here in Arkansas. Recreational use of water areas faces competition from many sides. Attractiveness of these areas may be reduced by the presence of industrial and manufacturing plants on adjacent sites. However, sound planning and coordination will assure that areas of particular value for outdoor recreation are maintained in as attractive a setting as possible.

Different forms of recreation are also sometimes in conflict. The safety and attractiveness of a river or lake beach for bathing, for example, are substantially reduced by unregulated motorboating. The use of such a device as active zoning can do much to resolve these problems. Areas of outstanding scenic beauty and splendor should be preserved along the banks of our rivers and lakes. Areas of unique and natural wonders should be promoted by various groups and organizations. Undisturbed roadless areas characterized by natural, wild conditions, including wilderness areas, should be preserved. An example of that is the White River National Wildlife Refuge and Hollow Bend Refuge. We must remember that people will stop along the Arkansas waterways to explore the various regions, such as Pitit Jean State Park.

Whatever the measuring rod, whether it is visits to Federal and State recreational areas, the number of fishing license holders, the number of outboard motors in use, or the number of gallons of gasoline sold, it is clear that Americans are seeking the outdoors as never before. And this is only a foretaste of what is to come. Not only will there be more people in the coming year but they will want to do more things, and they will have more money to do them with.

A new age embraces travel in the United States. Domestic vacation expenditures may reach 26 billion dollars. About 2/3 of this huge figure will come from out-of-State tourists who are traveling farther and farther from home on a holiday. That 26 billion of course is a nationwide figure.

For its annual report on domestic travel, State tourists offices, Chamber of Commerces, city visitors bureaus and transportation companies, all were polled by the American Express Company. The poll revealed an unprecedented rise in out-of-State tourism in the past six years. Domestic tourist spending has climbed from $15 billion in 1956 to $24 billion 9 million in 1962. Over 16 billion dollars of this figure was reported out of State tourist revenues, and in 1961 the total was 225 billion. Now, what accounts for this steadily growing surge of out-of-State tourism? There are a number of contributing factors: the desire to see America, the freedom to go where one wishes, networks of transcontinental highways, hundreds of new motor hotels, flexible air, rail and bus "package" trips, family-plan air fares, and last but not least, the spirit of adventure which is an inherent American characteristic.

Parents by the hundreds of thousands are traveling all over the country with their children, not only for a change of scene but to broaden their knowledge of United States History. This shows up on the impressive out-of-State visitor rosters of many of our historic sights and restorations. State parks accounted for two hundred and seventy-three million visitors in 1964, in the United States. Arkansas had well over 5 million. Tourism is one of Arkansas' most important industries, ranking fourth behind such old standbys as production of timber, cotton, soybeans and rice; and the economic value of tourism sparked by the current boom in outdoor recreation is increasing, of course, every year. For example, the attendance at Arkansas' State parks has more than been quadrupled in the last eight years. One million persons visited our State parks in 1956 and I have just told you that over 5 million were here in 1964. We are doing what we can in our State park system to provide everything we can to make every area unpolluted and to carry on with the great job that is being done by this Conference on Recreation Sanitation and Safety.

Here are a few of the things that we have recently done in the State parks and are in the process of doing at the present time. The new sewer system at Lake Oachita State Park; water system and sewer disposal systems, bathhouses and latrines at Buffalo River; the same for Lake Chicot, Bull Shoals and Devil Den; and a study is now underway to complete in the near future a new sewer and disposal system at Lake Catherine and at Petit Jean State Parks. All of this amounts to 440 thousand dollars that will be spent by the Arkansas Publicity and Park's Commission in the near future. Thank you very much.

GAME AND FISH - Nelson Cox

I want to setout a figure or two before you here to show you the size and the importance of the game and fish in your own area, in our own State, and in every State in the Natior, and our National Capitol too; it's important there. Last year more than thirty-four million sportsmen bought hunting and fishing licenses. There were fourteen million-plus that bought hunting licenses, and twenty million-plus that bought fishing licenses; so in all there were thirty-four million people. This is not a complete picture because in our State they only can buy a license between the ages of 16 and 65. I bring this out because last year the number of licensed fishermen in Michigan, Minnesota, and Wisconsin beat us. Those are the States that claim the big lakes and they have many heavily populated areas just outside the State borders. We have approximately twenty fishing lakes built by the State of Arkansas, covering well in excess of 15 thousand acres. These lakes are situated strategically throughout the State where fishing would not be available otherwise. We have not gone into the big lake areas where the Corps of Engineers has built lakes. People enjoy other recreation activities on Corps lakes that are not always practical on our lakes.

In addition to that, we have on land we have acquired, 214,500 acres of land that is just as much yours, even if you live in Washington, as it is mine, if you have a hunting and fishing license. We leave compliance up to the Health Department. On Corps of Engineers lakes, they issue permits to operate and they require them to be built under your State and Federal regulations. Now we will continue to do that also, but we will not inspect them for compliance with health department regulations; that is left to the health department. We might report them to you and might appear as a witness to prove that violations of regulations are occuring.

These lands that we own are described in a booklet. These are actual photographs taken all through the year by our Department. The Publicity and Parks has helped us publish this and a smaller pamphlet called "Hunting and Fishing in Arkansas." We coordinate our work with them because people come to or call the State for information on hunting, fishing or any other subject. They usually write to your Parks and Publicity Commission. We work with any agency which can help plan and better utilize your areas. We have just made land available to the Parks Department in an area where they are planning to build a park, so long as they use it for public enjoyment, or something to that effect. But we have several instruments of use with various programs and agencies throughout the Nation. Anytime we can benefit the Department and the public, let us join you in working out a similar program.

AGRICULTURAL AND EXTENSION SERVICE - George F. Metzler

The position of Recreation Specialist in the Arkansas Agricultural Extension Service carries the major responsibilities for commercial recreation. This, then, would mean that in the areas of education and information I would work toward assisting individuals and groups with the establishment of recreational enterprises for use by persons living in our State, as well as visiting tourists.

The Department of Agriculture has a major interest in outdoor recreation. In view of the Fact that private land, which comprises three-fourths of the land area of the Nation, constitutes the greatest potential for needed recreational areas, much of our program is focused on the development or conversion of private land for recreation. Responsibility for educational assistance and advice, as outlined by the Secretary of Agriculture, has been assigned to the Federal Extension Service.

The Arkansas Extension Service is organized on a county basis, with staffs in all 75 counties. County staff members normally include agricultural and resource development agents and home economists. Guidance to landowners in converting cropland to recreational uses, assistance to farmers in establishing and operating vacation farms, and assistance to tourist enterprises are examples of County Extension activities relating to outdoor recreation. Because of their close relationship to county government, the County Extension Agent is an advisor to practically every type of local development activity. His access to the Land-Grant Universities and agencies of the Federal Government puts him in touch with many types of technical assistance that can be made available to landowners considering outdoor recreational enterprises.

State and County Extension Agents cooperate with church organizations, schools, recreation associations, farm organizations, development corporations, civic clubs and other groups, and are responsible for organizing State and local Rural Areas Development Committees. These groups and committees aid in developing and improving the recreational resources of towns and rural areas. They also aid in establishing land-use cooperatives, vacation farm associations, and other implementing organizations.

Commercial recreation factors contributing to increased tourist business are: a shorter workweek; higher pay; faster, cheaper, and better transportation; longer paid vacations; and more education for more people.

This change in the status of the American citizen has produced people with an insatiable urge to see new things, have new experiences and find new places to visit.

This is what presents a "third dimension" of opportunity for most landowners seeking to create more jobs and more income. Tourist business is the third dimension that many families need--and now have available--to balance their economic structure.

Before determining the specific steps the family can take to increase tourist business, one will need a bird's-eye view of the industry as a whole, how it is made-up and how it operates. Tourist business is made-up of interrelated enterprises, each of which provides a service or a product that tourists are willing to pay for: transportation; food and lodging; entertainment; information; special clothes and equipment. In each of these an effort is made to build instruction on safety regulations and sanitation services. Insurance to cover accidents is also stressed.

The principal components through which the tourist business thrives are: public carriers; sightseeing; hotels, motels, restaurants, resorts, and gift shops; special attractions and special events; official tour promotion agencies; automobile clubs and touring bureau services; and physical facilities of the community itself.

What are the chances of getting a share of today's tourists?

First, the county or community can assist, then the individual must take these initial steps; (1) Make up his mind that he does want more tourists; (2) Make up his mind to work aggressively and develop the tourist potentials he has; and (3) Make up his mind to develop these potentials consistently, over the long run, and to seek new potentials.

Second, he must: (1) Recognize tourist assets that are not used, or that need to be developed (farm inventory!); (2) Make plans to develop potentials; (3) Advertise! Sell what you have; (4) Make an all-out effort to rally and sell the program; and (5) Regard the tourist development program as a continuous effort and organize accordingly.

The latest report I have seen shows that recreation is Arkansas' fourth largest industry. It is expected that between 21 and 22 million tourists will visit this State this year. According to reports from the Arkansas Publicity and Parks Commission and the National Forest Service, they cannot build camping and recreational areas fast enough to keep pace with the expanding numbers of people who visit the State. Commercial recreational facilities are being used beyond capacity. Therefore, there is a need now, and in the future, to expand the facilities in existence as well as introduce new facilities.

Private campsites are in demand. Families turn to camping for economic reasons. They will not spend as much money per day in one place, but the vacation period is longer. Therefore, they will use many campsites. The camper is a skilled worker, or a professional man. He and his wife, with an average of 3.2 children, will spend approximately $200 on a trip of one week. This is from $25-$35 per day.

Cooperative efforts through group action present the solution to the development of many recreation complexes. For example, one mountainous area stretching some 30 miles along a beautiful stream could become a multi-million-dollar enterprise. One attraction will not attract many tourists, but this one specific facility can become very profitable if other attractions exist. Along this road bed and paralleling the stream many money-earning facilities such as an "Arkansas Traveler" train, float trip, motels, restaurants, general store of mountain products, such as sorghum, cornmeal, cob pipes, etc., swimming areas, picnicking, honeymoon cottages, fishing, vacation homes, and many others, would be profitable for a large number of local families.

In another situation, cooperative action has assisted landowners in seven counties to organize an association whereby they prepare their homes and advertise as vacation homes. Many couples or families are seeking a week's vacation on a farm to get away from the city life. These homes provide a room and meals for a period of time at a nominal fee, which becomes an additional income for the rural home. Our literature emphasizes the strict use of sanitary regulations, according to State regulations, for the living quarters, and food and waste disposal.

Many individual rural farms provide riding horses, fishing lakes, hunting preserves, hunting areas, camping sites, native products, motel service, etc. The Extension Service, together with technical assistance supplied by other governmental agencies, serves as a catalyst. When we can bring about the development of a recreational area that is needed, we will serve those who need the income as well as provide a facility for those who plan to pay for the service.

SOIL CONSERVATION SERVICE - William B. Davey

It is a privilege to participate in your Recreational Area Sanitation and Safety Conference. Your conference theme is of wide interest and importance to all of us engaged in the various phases of natural resources conservation development and wise use.

As most of you are aware, the Soil Conservation Service has been indirectly concerned with recreation and fish and wildlife development for 30 years. It has always considered the development of fish and game resources and the creation of pleasant surroundings for outdoor recreation as an integral part of a National Program of Soil and Water Conservation. However, new authorities and policies give us an opportunity to work even more closely with Federal, State and local agencies in our expanded program of technical service and assigned U. S. Department of Agriculture leadership in the fields of recreation and fish and wildlife. We welcome this opportunity because such an objective, cooperative approach will result in a more effective development program.

By and large, Soil Conservation Service assistance in Arkansas, in the field of recreation, is provided through two main program activities: (1) Conservation Operations and (2) Watershed Protection Projects.

Under the Conservation Operations Program the Soil Conservation Service provides technical help to farmers and ranchers through soil and water conservation districts. The activities include (a) making soil surveys to determine land capabilities and conservation treatment needs, and (b) furnishing technical assistance to district cooperators and other landowners in developing plans and applying conservation treatments, including the use of land and water for fish and wildlife production and recreation-related land treatments.

Increased national attention to desirable land use adjustments with special emphasis on recreation, created a need for expanding the nature and extent of technical assistance on recreation to individual and groups of farmers, ranchers, and other owners of land in rural areas. Following enactment of the Food and Agriculture Act of 1962, the Secretary of Agriculture assigned to the Soil Conservation Service, leadership for the Department activities in developing outdoor recreation on non-Federal rural lands. The Secretary of Agriculture has grouped the various kinds of enterprises into seven categories: (1) vacation farms, (2) picnicking and sports centers, (3) fishing waters, (4) camping, scenery, natural recreation areas and wildlife refuges, (5) hunting areas, (6) hunting preserves, and (7) selling recreational land or recreation use rights.

The Service recognizes recreation as a desirable and suitable use for land, and SCS technicians are expected to encourage landowners to consider recreation as one of the alternative land uses as they develop a conservation plan for their lands. Favorable opportunities for developing income-producing recreational enterprises are specifically called to the attention of landowners and operators. If a landowner decides to use part of his land for recreation or to develop a recreational enterprise on land used for other purposes, SCS provides assistance commensurate with its assigned responsibilities. It is a policy of the Service to encourage soil and water conservation district supervisors, and other landowners assisted in planning income-producing recreation enterprises, to utilize private engineers, surveyors, landscape architects and others who supply recreation-related services in carrying out such plans. Similarly, SCS employees are expected to inform landowners about the technical and financial assistance available from other agencies and organizations.

Examples of the types of assistance SCS can give owners and operators in developing and applying conservation plans, involving income-producing recreation enterprises, are:

1. Supply information on appropriate alternatives, including available cost-return estimates.
2. Supply information on soils and their suitability for growing certain vegetation, road and trail construction, septic tank filter fields, dams to impound water, irrigation, drainage, etc.
3. Appraise physical suitability of sites for cottages or lodges, roads or trails, camping, picnicking, ponds and lakes, parking areas, hunting preserves, etc.
4. Supply information on plants and their suitability for protective cover on fields, playgrounds, dams, wildlife food and cover.
5. Development, improvement and management of:
    a. Range and pasture lands for livestock and big game;
    b. Farm woodlands for wildlife, hiking and camping;
    c. Wildlife habitat;
    d. Fish habitat;
    e. Water supplies and surface runoff, etc.
6. Furnish information on sedimentation, geology and hydrology for soil and water management.

7. Make available standard construction plans prepared by others for recreation facilities such as cabins, picnic tables, docks, restrooms, bathhouses and parking lots. Each SCS office in the State has a book of these plans. Most of these plans are complete enough for purchase of materials and immediate construction.

8. Provide the services of a Recreational Specialist for training and counsel on special enterprises. The Recreation Specialist is headquartered at Fort Worth, Texas, and spends a major part of his time preparing and reviewing standards and specifications for recreational enterprises.

Under the Watershed Protection Program the SCS is authorized to (a) cooperate with local sponsoring, Federal and State and other public agencies in planning and installing works of improvement of watershed projects to reduce erosion, floodwater and sediment damage, and further the conservation, development, utilization and disposal of water, including development of recreational facilities and improvement of fish and wildlife habitat, (b) make loans to local organizations to help finance the local share of the cost of carrying out watershed works of improvement, and (c) cooperate with other Federal, State, and local public agencies in making investigations and surveys of the watersheds of rivers and other waterways for the development of coordinated water resources programs.

As a result of the Food and Agriculture Act of 1962 recreational developments may now be included in watershed protection projects. Moreover, cost-sharing may be provided for (1) construction, (2) land rights, including removals, relocations, and modifications of existing improvements, and (3) minimum basic facilities needed for public health and safety, access to and use of the recreational area for fish and wildlife facilities. These developments must be a part of a watershed project which includes structural measures providing substantial benefits for flood prevention or agricultural water management. Federal financial assistance is limited to 50 percent of the construction cost, 50 percent of the minimum basic facilities and 50 percent of the cost of needed land rights. Minimum basic facilities may include:

1. Roads and trails providing access from improved public highways and between different parts of the development.
2. Parking lots
3. Public water supply
4. Sanitary facilities, including toilets and garbage disposal
5. Power facilities

6. Beach development

7. Boat docks and ramps

8. Plantings and other shoreline area improvements

9. Fences, cattle guards and other facilities to protect the development.

10. Permanent-type picnic tables and fire places

11. Other similar or related permanent-type facilities needed for public health and safety, access to and use of the recreational development.

In providing technical assistance to landowners and in the development of watershed projects the Soil Conservation Service is not unmindful of the importance of sanitation and safety.

Some of the specific examples of Service activities in these fields include:

1. Sanitation

a. Water Storage Areas

There are approximately 75,000 farm ponds and reservoirs in the State, for which the Service has supplied the major portion of the technical assistance. Even though the primary purpose of most of these ponds and reservoirs is to supply livestock and irrigation water, secondary recreational activities are included in many instances. In addition to these ponds and reservoirs, we have constructed 46 flood-water-retarding and multiple-purpose structures in watershed projects. Some of the sanitary features associated with these structures are as follows:

(1) Stocking water storage areas with fish. Fish provide recreation and feed on mosquito larvae; Israelian Carp are also used in some ponds for aquatic weed control. Toxicants to control fish diseases and parasites are used extensively, especially where fish production is the primary concern.

(2) Deepening pond shorelines in most instances. This, together with a good fertilization, effectively eliminates or controls aquatic weeds which otherwise would provide a suitable place for mosquitoes to breed.

(3) Removing trees, snags, stumps and other debris from the basin during construction to prevent mosquito breeding and water contamination.

(4) Locating recreational enterprises associated with water storage areas that involve swimming, away from barnyards, sewers, and the like.

(5) Providing adequate vegetative cover for the drainage area before a water storage structure is built. This reduces sediment, lengthens the life of the structure, and guarantees a better quality of water.

b. Recreation Area Planning

(1) Where SCS gives technical assistance in the development of recreation areas such as picnicking, camping, swimming, summer camps, etc., full attention is given to compliance with rules and regulations of the Arkansas State Board of Health. Landowners are encouraged to seek legal advice.

(2) Soil scientists have classified each soil in Arkansas according to its suitability for recreational facilities, such as septic tank filter fields, campsites, intensive play areas and picnic areas. This helps the rural landowner place his system at the best location to prevent pollution of ground water, surface water storages and flowing streams.

(3) Practice standards and specifications and standard facility diagrams have been prepared and assembled for guidelines in the establishment of sound recreational facilities which take into account the needed sanitary facilities such as garbage disposal and toilet facilities in the case of picnicking, camping and swimming; development of erosion control measures to prevent or trap sediment, etc.

2. Safety

a. Water Storage Areas

Landowners are encouraged to consider the following safety measures when recreation is associated with water storage areas:

(1) Declaring his use of water before construction so that swimming beaches, guards over conduits and other safety measures can be designed initially.

(2) Elimination of sudden dropoffs and deep holes in swimming areas.

(3) Marking the safe swimming area and placing warning signs at danger points.

(4) Placing life saving devices such as ring buoys, ropes and long poles at swimming areas.

(5) Finding out what the community or State laws say about landowner liability in case of accident or death -- he may need to protect himself with insurance.

b. Other Recreational Developments

The development and management of other recreational facilities involve a wide variety of safety considerations. Included in plans for these facilities are such items as:

(1) Fire breaks and controlled burning to protect property; control of insects and poisonous plants; and maintenance or improvement of wildlife food and cover.

(2) Land grading and shaping for playgrounds and similar heavy use areas.

(3) Removal of obstructions such as rocks, stone fences, hedges, fence rows, and gullies, to facilitate use of recreational areas.

(4) Location and design of access roads for safe use.

(5) Stabilization of heavy use areas with suitable materials and/or initially needed structures.

(6) Pruning and thinning of plants and trees left in heavy use areas.

(7) Construction of fences to eliminate or restrict the use of hazardous areas.

(8) Location of trails and walkways on safe terrain.

(9) Provision for guide services and comfort stations where larger facilities are involved.

Landowners are encouraged to become knowledgeable in sanitation and safety regulations where recreation is planned, either as a primary or secondary enterprise, and to be able to recognize and eliminate all safety hazards.

PLANNING - STATE DEPARTMENT OF HEALTH POINT OV VIEW - J. T. Jaynes

Preplanning conferences with representatives of all agencies interested in proposed recreational developments is the most important single procedure necessary to the sound location, construction, and utilization of recreational areas. No two recreational areas are alike in location and topography. Therefore, custom designing is necessary for each area.

Arkansas is unique in that a majority of our recreational development is associated with major water impoundments. Some of these are sources of raw water for public water supplies. Thus more rigid controls are necessary on the watershed. Controls relate to lot sizes in subdivisions, which this State recommends as a minimum of 20,000 square feet, the discharge of sewage, location of water wells, food service establishments, and the requirement of sewage treatment devices on watercraft. Zoning of water activity areas are also necessary in some instances. Also important to the planning of a recreational area are the many other environmental and aesthetic considerations of which one should be aware. I would like to elaborate on a few of these areas where preplanning consultation is most important.

1. Food Service Establishments
   a. Floating permissible with proper discharge of waste.
   b. Any establishment which charges for food is a public eating establishment, and therefore must comply with State Health Department regulations.
2. Boat docks must have potable water to all fish-cleaning areas. This is a public service, therefore it is extremely important.
3. Preplanning regarding accessibility to the area by the user is essential. Consideration must be given to location as related to obnoxious conditions which may exist in the general area, such as garbage and refuse dumps, certain types of farming operations where mosquito and fly populations are abundant. Recreational areas located where aircraft spraying and pesticide control is carried out can be very unpleasant, and dangerous to the health of the user.
4. "Pointing out" hazards to the safety of the user is all important.
   a. Clear user areas with saws that cut undergrowth flush with the ground.
   b. Post hazardous rock formations, bouy deep water areas, speed limit markers on land and water.

5. Trailer parks should be planned so as to provide adequate facilities and ample parking areas.

6. Planned refuse collection and disposal is vital to keeping repeat visitation at a high level.

7. Construction of new buildings and the maintenance of existing buildings in recreational areas are specialized problems which require comprehensive planning by architects and engineers. Many of our retirement communities require specialized facilities.

8. Summer camps are especially in need of good sound planning.

In summarizing what I have been discussing, we can say that the continued enjoyment of recreational areas depends upon the facilities available, maintenance of the area and a relaxed atmosphere due to a safe environment.

Let me emphasize the importance of preplanning consultation with all agencies concerned with recreation and a sanitary survey of the proposed site.

Acquire the services of a competent engineer and architect in planning. Submit plans to all agencies, especially the State Health Department, for approval of water, sewage, food service and plumbing.

We of the State Health Department are ready to assist you in your planning!

RECREATION SAFETY - Eugene L. Lehr

Few Americans this year will not be touched in some way by the enormous and still growing pressure for use of outdoor recreational areas and facilities. Many of us -- perhaps most of us -- will begin by competing for space on the highway as we head for the spiritual regeneration and physical therapy of favorite vacation areas.

In keeping with seasons, 100 million people will take to the water for swimming, boating, water skiing, fishing, and underwater diving. More than 6 1/2 million will populate organized camps which bring youth out of doors in all 50 States. Millions more will enjoy family camping and cross country travel on the many thousands of miles of scenic trails. Come autumn, and 14 million hunters will go into the woods and fields. When the snow flies, perhaps some 6 to 8 million skiers will share fun on the ski slopes.

Here, I might add parenthetically, some -- perhaps as many as one out of every hundred in the case of skiing -- will share fractures or other trauma as well as fun. And in addition to the year's injury toll running into uncounted millions, some 5,000 to 6,000 lives will be lost in pursuit of all forms of recreation away from home.

Unfortunately, it is true that a part of the cost of outdoor recreation is assessed in human terms, such as deaths and injuries. It is equally true that all of us who share responsibilities for planning and making provisions for recreation also share a responsibility to reduce the human cost to the absolute minimum that can be attained.

Planning for recreation in the Nineteen Sixties has been given a powerful thrust and a new meaning. Now, as never before, the American people -- through their local, State, and Federal Governments -- are taking giant strides toward overcoming shortages in recreational opportunity and preserving a vital part of our American heritage for future generations. Today, with renewed initiative on the part of State, local and Federal Governments, both recreation and conservation are receiving the emphasis which they long have needed.

Much more than in the past, we consider recreation and conservation together. For when we conserve our forests and lands and waters, we do so for the use of man and for his generations to come. Necessarily, we must think and plan in terms of the use which human beings can and should make of these natural resources.

Of conservation, President Johnson said that "Its concern is not with nature alone, but with the total relationship between man and the world around him." This expresses the philosophy which underlies our meeting together here, where the interests of health and safety are blended with those devoted to the preservation and improvement of the natural resources of our environment.

Consistent with this philosophy is Secretary Udall's vital concern not only with restoring to the Nation some of the natural beauty which has suffered so grievously from thoughtlessness and carelessness, but as well with meeting the urgent needs for attractive recreation areas readily accessible to our great and growing concentrations of urban population. Also notable in this connection are the significant contributions to conservation and recreation of the Recreation Advisory Council under the Chairmanship of Secretary Freeman. Recent studies of the Council point the way toward more effective uses of our natural resources for recreation.

Yesterday in Washington the White House Conference on Natural Beauty concluded two days of meetings. To all who are interested in recreation and conservation, the very fact that such a conference took place is of great significance. This is one more clear indication of the importance with which the esthetics of our environment and the preservation of natural beauty for recreational and other purposes are regarded.

In the legislative field, the last Congress enacted into law important measures which not only protect existing natural resources, but which provide assurance that new recreation areas for our growing population can be developed through a new and orderly system of financing. When it took effect on January 1, the Land and Water Conservation Fund Act established a three-way partnership between the individuals who use outdoor recreational facilities, the States, and the Federal Government. The last Congress also enacted the Wilderness Act, which will provide important support for the development of outdoor recreational programs, and laws to establish new recreation areas. One of these is the Ozark National Scenic Riverway, a recreational asset of great potential for the Ozark region.

While the general public is well aware of the fact that vast acreages of land and water in this country are owned by the Federal Government, the provisions for recreational uses covering much of these areas are not so widely known and appreciated. I am not speaking now of our national parks, national monuments, and national forests, which have been effectively promoted and which are superbly administered in the public interest. Rather, I am referring to the acres under the control of agencies other than those which manage our parks and forests.

This brings me to the concept of the multiple use of land, just as we practice, to an ever increasing extent, the multiple use of water. The concurrent use of specific water areas as sources of domestic water supply and for recreational, industrial, and agricultural purposes is most popular in the West, where water supplies always have been very limited. However, with the advance of pollution and greatly expanded demands for water in other parts of the country, we will see much more in the way of planning for multiple uses water.

Multiple uses for land, involving mainly recreation in conjunction with primary purposes, arise from essentially the same needs brought about by multiple uses of water -- namely, shortages in relation to the supplies. Thus we find growing provisions for recreation associated with such primary uses as conservation in the broadest sense in the Tennessee Valley, reclamation in the western States, and military requirements on our extensive military reservations.

To the great credit of the Armed Forces, substantial efforts are devoted to making large parts of their areas available to the public for recreational purposes. Vast acreages are open to civilians and military dependents for hunting, camping, fishing, and other water sports, and intensive measures also are being taken to restore and maintain the natural beauty of these lands.

Reports indicate that there is careful attention given to public safety on these military reservations -- the same kind of attention that is evidenced by the civil agencies administering lands used for recreation. In general, I believe that the public agencies responsible for the planning, development, and operation of outdoor recreation areas recognize their obligations not only to provide for health and sanitation safeguards for the using public, but also to make specific provisions for protecting the public against accidental injuries.

The Land and Water Conservation Act, which is administered by the Department of the Interior's Bureau of Outdoor Recreation, provides money for Federal acquisition of recreational lands, for partial payment of recreational costs at future Federal water projects, and for grants to States for planning, acquiring, and developing recreational areas and facilities. The Act also provides for user charges to contribute to the development of recreation areas and facilities. Hopefully, as a result of this legislation, many new recreation areas will be provided for the public.

Some of these new recreation areas may be under the control of new agencies, or agencies which have not heretofore borne responsibilities for planning the kinds of safeguards for the public's health and well-being which will be necessary. In any event, careful planning must provide for the identification of potential hazards, accident problems must be anticipated, protective measures must be designed and applied, and the results must be evaluated.

Of necessity, many measures adopted to prevent accidental injuries in recreation areas are based upon common sense or empirical judgment. The need for a guard rail at a scenic overlook on the brink of a cliff is obvious. So is the need for identification and warnings relating to known hazards. In many cases, public access must be restricted where dangerous conditions exist.

But there is no substitute for actual experience, and in some cases there is no substitute for research to find the most effective means for providing the necessary protection. This calls for close and continuing attention to accident experience, especially in newly developed areas. It calls for accident reporting on a systematic basis, and careful analysis of the reports. Finally, it calls for an open minded approach to new solutions, a willingness to try innovations, and a readiness to make changes when evidence points to such a need.

Each portion of a recreation area where people are likely to congregate should be evaluated from the standpoint of safety. This applies to camping and picnic areas, trailer parks, and water used for fishing, swimming, and other sports. Correcting the obvious deficiencies may be easy. However, identification of the less obvious potential hazards requires training, experience, or a combination of both. Here's an example of what I mean. We sometimes find a picnic table so constructed that unless there is a reasonable balance in the weights of individuals sitting on opposing sides, the table may be overturned when one of the picnickers leaves his seat. This is a simple yet subtle and easily avoidable hazard. I know of one case in which a small child was seriously scalded by hot coffee because this hazard was not avoided in a popular public park.

I am sure that you can think of other examples which illustrate this point. Facilities for cooking in the field, picnicking, and camping need not be any more costly or less attractive because they are safe.

In safeguarding the health of the users of recreational facilities -- and this includes the concern for injury prevention -- the operating agency applies the recommended health standards of the Federal, State or local public health authority having jurisdiction. The public health agency is, in effect, a resource which can provide varying degrees of health related services to agencies responsible for recreation areas.

With regard to preventing accidental injuries, this is a relatively new area of public health, and services in this field will necessarily vary with its state of development within the health agency, the experience accrued by the health agency in accident prevention techniques, and other factors. In many cases where State or local health agencies are quite limited in their accident prevention services, they can call upon the Public Health Service for support. Similarly, the Public Health Service frequently draws upon the specialized knowledge and skill of outside consultants for guidance in meeting problems that arise in connection with accident prevention programs.

The public health agency is not a safety organization as such. It does not perform the safety engineering function. It is, however, vitally concerned with accidental injury and with the prevention of mortality and morbidity associated with accidents.

To us who work in the field, injury control is a form of preventive medicine. Accidental injuries constitute an enormous problem in public health. Here are a few figures that add meaning to this point. Among people under age 35, accidents lead all other causes of death. More than 100,000 deaths a year are attributable to this cause. Of the 50 million people injured by accidents each year, 45 million receive medical care and 2 million are hospitalized. Persons injured in accidents require 22 million hospital bed days, 65,000 hospital beds, and the services of 88,000 hospital employees and staff members.

Although I stated earlier that five to six thousand Americans die each year in recreational accidents, we do not really know how valid this estimate actually is. While I personally believe it to be very conservative, this number of deaths certainly is significant. For one thing, it does not include several thousand accidental drownings that may be related to activities other than recreation. In any case, estimates of fatalities are only a part of the story. Injuries associated with recreation run into the millions. By way of example, I know of one ski slope which can be counted on to produce about 50 fractures every weekend during the skiing season.

One of our great problems in preventing injuries in recreation is the dearth of much-needed statistical data. Unlike the systematic reporting of diseases which has been in effect for many years, the reporting of accidental injuries is at best variable -- I might even say haphazard -- and lacking in coordination. Our fund of statistical knowledge concerning recreational accidents suffers particularly from our failure thus far to carry out epidemiological investigations dealing with injuries in the recreational setting.

For some few specialized recreational activities, such as boating in those States with Coast Guard-approved boat-numbering systems, valuable data are available. Last year, for example, Arkansas had 19,119 boat numbers outstanding. These apply to power boats of more than 10 horsepower. There were 12 reported accidents, with 12 people killed. The dollar damage was minor, but of course we have no way of measuring the value of 12 human lives.

No information is readily available concerning the number of rowboats, canoes, and skiffs of less than 10 horsepower on the recreation waters of Arkansas, or how many drownings may have involved their use. It would not be surprising if such drownings exceeded those reported for accidents involving the numbered boats.

I know of only one comprehensive study of accidents and illness in organized summer camps. This was a 3-year research project in San Bernandino County, California, during 1961, 1962 and 1963. The survey, which covered 85,000 campers during each of the three years, revealed much that was unknown previously, and provided a foundation for a combined educational and environmental improvement program.

Another more limited survey, covering 1,192 campers involved in 296 injuries, was conducted during an 8-week period in New England. This study termed 80 percent of the injuries as preventable.

Research directed toward the causes of injuries associated with recreation is badly needed. Very frequently, the major problem in dealing with a specific type of accident involves the development of a clear understanding of its nature and possible preventive measures. Fortunately, it often is possible to put the necessary preventive measures into effect on the basis of knowledge and experience gained elsewhere. Not uncommonly, however, research is needed to point the way to possible corrective measures.

I believe that much of the research which is needed in the field of recreation is of such character as to require joint approaches utilizing many kinds of talents. As an example research relating to skiing injuries involved a State health department, a medical school, a clinic, and a major organization dedicated specifically to the sport. It is my feeling that the team approach in such research will be the rule.

Even though extensive data relating to most categories of recreational accidents are not now available, many of the potential problems which will be encountered can be anticipated. This is true even in the case of established recreation areas as well as in the development of new ones.

Consider the matter of housing in recreation areas. The simple and sometimes primitive facilities often associated with recreation areas may magnify accident potentials. The camp, the cottage, or resort may not offer to its occupants the protection afforded by building codes and housing laws.

This is not to imply an advocacy of extending to recreation areas metropolitan zoning requirements and inspection services. Rather, my intention is to point out that conditions which are likely factors in accidental injuries may be associated with recreation facilities. Appropriate, practicable, and effective preventive measures short of zoning laws and extensive inspections can be applied. Examples are the enforcement of minimum and reasonable standards, inspections which can be integrated with other activities in the interest of economy, and orientation of the users of recreation areas.

This last -- which involves reaching individuals with essential information -- may appear to be most difficult. However, the many means for accomplishing this include obtaining the cooperation of recreational and other organizations, the mass media of communication, and the retailers who sell recreational supplies and equipment.

The injuries which are common in these areas include burns, electric shock, asphyxiation, and various types of fractures, sprains, and wounds. A common cause of death in recreation areas, of course, is drowning.

All of us are conscious of the problem of littering and -- unfortunately --even the severest penalties appear unable to prevent dumping in areas used for outdoor recreation. In many localities the presence of debris, particularly tin cans, broken glass, and automobile hulks, are potential sources of injuries. While this problem receives continous attention, I mention it mainly in a context of accident prevention rather than esthetics. The presence of litter is offensive on both counts.

No matter how conscientiously the managers of recreation areas work for safety, it is almost axiomatic that some lives will be lost due to drowning if water is present in sufficient quantity. However, the hazards can be reduced and some deaths and injuries averted by careful attention to swimming and bathing areas. It often is desirable to restrict swimming and bathing to specific localities. Submerged hazards to diving can be removed or marked. Supervision, wherever practicable, will contribute greatly to safe use of swimming and bathing facilities.

Familiarity with organizations and agencies which share an interest in outdoor recreation and the prevention of injuries may lead to joint efforts in injury prevention. By pooling knowledge and experience, it often is possible to predict and prepare for the kinds of accidents likely to occur when specific age groups engage in specific recreational activities. We know, for example, that the chief victims of drowning are infants, children, and youths. By 5-year spans, the age groups from birth through four and from 15 through 19 are the highest. Thus, in recreation areas, the 15 through 19 age group is statistically vulnerable to drowning, and we know that a disproportionate number of these deaths involve males.

The cooperative spirit so much in evidence at this Conference leads me to suggest that the recreation programs of Arkansas, developing as they are in an area of rising importance among the Nation's recreational resources, could provide valuable leadership for the entire country. This calls for a soundly developed reporting system covering the entire health situation in outdoor recreation, including the overall incidence of both illness and injury. It further calls for a close relationship between the development of facts and a systematic application of preventive measures.

This is both a challenge and an opportunity. To meet the challenge and exploit the opportunity will serve both this State and our country as a whole. The time to start is now.

WATER SUPPLIES - Bob Sanders

It's a pleasure for me to be here this morning to discuss public water supplies and how they relate to recreation environmental sanitation. In my opinion the adequacy of the water supply within these recreational areas is the most important feature in the environment. I won't have time this morning for a long presentation of statistical data on reduction of intestinal diseases through advancements in water protection and water treatment techniques over the years. Suffice it to say that the decreasing incidence of water-born intestinal diseases has been spectacular indeed, with constantly improving sanitary engineering technology over the past fifty or sixty years.

I would like to go into the responsibilities of the State Health Department in the area of enforcement of our regulations. The regulations which are applicable to the subject I am speaking about were adopted by the State Board of Health under statutory authority, Act 96 of 1913. Therefore water supplies in our recreational areas will come under the classification of public water supplies or semi-public water supplies. Most of them will be classified as public water supplies. A typical example of semi-public water supply would be a well serving a rather isolated restaurant.

In the regulations that we operate under and are charged with enforcing, we are interested in the location of the source of the water supply with regard to existing sanitary conditions. We're interested in the protection of this source. And we're interested in assuring that if it is needed, it can be given adequate treatment to produce a water having suitable quality. These regulations also require the submission of detailed engineering plans and specifications of a water system prior to construction of the system. Here we look into the details of design and, as was mentioned previously, try to "engineer out" mistakes that might have been made in the design. One important requirement is that we must have a satisfactory operating authority responsible for perpetual operation and maintenance of the public water system.

Normally, in a typical recreational area for example, a governmental recreational area, the State or Federal Government is the owner and the operating authority. Where we find our problems with an ill-defined operating authority is in a proposed development of subdivisions around large water impoundments. If the developer intends to perpetually own, maintain, and operate a public water utility as a privately-owned water utility, then this would be a satisfactory operating authority. Problems come of course where a developer will plat a piece of land and construct a water system to serve it; perhaps put in a sewerage system and then sell off the vacant lots or build houses and sell them, thereby leaving no one in responsible charge, or no one as the owner of either utility. So it is most important that we get a satisfactory operating authority because good public health principles require the proper installation and the proper operation of an installation over the years.

In our recreational areas, when it comes to selecting the source of water, the policy of our office is to require that ground water be thoroughly investigated and that ground water be utilized as the source of supply unless it is clearly not feasible to do so. We have this policy because it is a simple fact that the use of surface water is more of a calculated risk due to the problems involved in protecting the source and the problems involved in the more sophisticated treatment of surface water.

Not only are we concerned with the quality of water, but also of extreme importance is the adequacy of the source of supply to meet peak demands during drought periods. This is something that is quite often overlooked in the planning of water systems serving not only recreational areas, but also municipalities. So the three important end-results we must have in order to know that we have a safe, reliable source of water are the following: (1) we know that we have to have the source adequately protected against entrance of contamination; (2) we know that we have to have and maintain quality control over treatment processes so that we know that a safe and adequate quality of water is being produced; (3) we have to maintain this water at adequate pressure. If we achieve these three objectives, we will always have a safe water supply that meets public health standards.

I would like to mention briefly some of the services rendered by the State Health Department in the matter of the public water supply factor of our environmental sanitation program. We, of course, under regulations, are charged with the review of plans and specifications before construction is commenced. We also can serve the owner of the water supply by assisting with certain laboratory services; namely, bacteriological examination of water samples. Our requirements, incidentally, are that the water supply serving recreational areas must be sampled at least on a monthly basis and submitted to the State Hygienic Laboratory here in Little Rock for the bacteriological examination. They can be sampled more frequently if the need arises. We offer assistance also in the physical and chemical analysis of your water source. This is an important item to be considered in the planning stage. It certainly will indicate what type of treatment is required, if any. Again, consultation by our engineering staff is available as a service to you during the planning stage of a proposed recreational area.

Now, also, we have an inspection service. With regard to field inspections, I believe that Mr. Kellogg has clearly pointed out to you the limitations that we are currently operating under with an extremely limited staff; however within this limitation, the services are there. So if I've gotten one thing out of this meeting, it is that the paramount theme seems to be planning, planning, planning; the importance of planning before commencing design, and we feel this is where our Department can be of most help.

I would like to re-emphasize one thing that was mentioned earlier about recreation in and around our municipal surface water supply sources. The policies of our office are that on our municipal water lakes we require controlled recreation to the extent of permitting nothing more than closely controlled boating and fishing. This holds true with one or two exceptions. There are a couple of large multipurpose Federal impoundments in the State where this is not applicable. But generally, on our public water supply sources, we feel that it is vitally important that recreation be controlled. The municipalities are required to own or maintain effective control through lease or other proper arrangement, a buffer zone around municipal water supply sources. This keeps septic tanks and other sanitary defects remote from the source of water.

In closing with these few brief comments, I would like to mention one item that doesn't appear on the program. This is a matter of public swimming pools and public bathing beaches. In this State, swimming pools are classified as either public or private. Private pools in Arkansas are the backyard residential pools. All others in this State are classified as public pools, according to a ruling by the Attorney General's office. The Board of Health also has regulations pertaining to public swimming pools and public bathing beaches. These regulations briefly require, in the case of proposed swimming pools, that the plans and specifications of the swimming pool and allied bathhouse facility be submitted to our engineering division and approved before construction is commenced. On bathing beaches, our rules and regulations more or less point up what the end-result is that we want in the way of water quality and sanitation in and around the beach. The development of a bathhouse at an open bathing beach may be required at the discretion of the State Health Officer. If it is required by him, or desired by the owner, then the plans and specifications must be submitted also. Toilet facilities are mandatory at the bathing beaches.

SEWAGE DISPOSAL - Richard Starr

This is a group of yeast known as saccharomyces ellipsoideus, or the true wine yeast, which ferment grape juice into wine. This process has been known to man since time began, and has given him much pleasure and more than a little pain the morning-after. Early man, with his thirst for knowledge, searched long and hard to find a way to make a more powerful wine to hasten his plunge into the delights and worldly pleasures of alcoholic bliss. His search was doomed to failure until he learned the art of distillation, but that's another story. A closer look into the dermentation process will shed light on the reason man has failed in his quest for a naturally fermented 100-proof wine. In the restricted world of the wine vat, the yeast converts the sugar in the grape juice into alcohol and carbon dioxide, which are waste products. Alcohol, besides being drinkable, is an excellent antiseptic in proper concentrations. So it would appear that the yeast's inability to dispose of its own waste in a proper manner has resulted in an untimely death by literally drowing in their own waste.

By now you are probably wondering how all this pertains to sewage disposal in recreational areas, but I think that if you consider your recreation area as the wine vat, and dwell on the fact that none of you are interested in committing economic suicide in your own sewage, I think you will see the tie-in. You may still consider this a little far-fetched, but a graphic example is the resort area of Lake Tahoe on the California-Nevada border; one of the world's clearest lakes, faced with this very problem. The sewage from the resort facilities enters the lake, and even though a high degree of treatment is provided, the waste still contains enough nutrients to cause algae growth in the lake which is creating turbidity and ruining the natural beauty of the lake.

In Arkansas, we are very fortunate in the fact that most of our recreational areas are new, and we still have time to plan and install proper methods of sewage disposal and treatment to prevent the pollution of our recreational areas and the early death of our recreational industry.

Before we discuss the disposal of sewage, let's define sewage. Webster defines it as "the waste matter that passes through sewers," but in our case I think we can consider it to be toilet waste, bath and shower wastes, kitchen waste (excluding garbage) and laundry wastes in any combination.

There are two basic methods of disposing of sewage. The first is the method in which there is no effluent discharged to the surface of the ground, and the second in which the effluent is treated and discharged to the ground surface (normally into a body of water). The first method utilized one or all of the following basic ideas: (1) placing the waste below the surface of the ground to prevent contamination of the ground water and to prevent the waste from reaching the surface, (2) contain the waste until it can be transported to another area for disposal, and (3) destroy the waste by combustion.

These ideas are used in the following types of sewage disposal:

1. The sanitary pit privy, concrete pit privy, septic pit privy, with leaching field, and the holding tank toilet all operate similarly. They consist of a pit normally below the surface of the ground to contain the waste. The pit when full may be filled with earth or the contents can be pumped out and transported to a site suitable for disposal. The only major variation is the septic privy, which is a pit privy discharging directly into a septic tank coupled with a leaching field to dispose of some of the excess liquid waste resulting from the daily addition of several gallons of flushing water and the liquidation of some of the solids. All these types of units are suited to isolated rural areas for campsites, small cabins, and other similar public use areas. Due regard must be given to their location and construction even in isolated areas to prevent contamination of water supplies and disease transmission from insects.

2. The chemical toilet and the combustion toilets are used for special applications for limited service. The chemical toilet consists of a tank filled with a strong chemical solution, usually a caustic, which reduces the solids to liquid, controls odors, and retards bacterial actions. The chemical and the waste must be disposed of at a suitable site when the container becomes full. The combustion toilet consists of a burner (gas or electric) which evaporates liquid and reduces the solids to an inert ash. These units are not widely used due to their limited capaicity and high operation cost. A major limitation of all of the previous units discussed is that they are designed to handle only human excreta.

3. The septic tank and leaching field system is the first type we have considered that can be used to serve a cabin or cottage with modern plumbing in a relatively built-up area and dispose of all the waste generated in the cabin. The heart of this system is the leaching field, not the septic tank as many people think. The septic tank primarily traps the solids which will clog the leaching field and bring about some reduction in the volume of solids through bacterial action. This fact enables a properly designed septic tank to operate for several years without being pumped out. A well designed system must be based on subsurfaces solid exploration and a properly run percolation test. These two tests will determine the suitability of the soil and the size of the leaching field needed. Full information on septic tank disposal system can be found in Arkansas State Board of Health Bulletin No. 9, available without cost from your local sanitarian or from the Arkansas State Department of Health in Little Rock.

The second basic method of waste disposal encompasses the processes which treat the sewage by controlled biological methods and then discharge an effluent to the surface or normally to a body of water. This group includes the septic tank with a sandfilter, small package extended aeration units, and the conventional sewage treatment plants. The main difficulty with these methods is that they do have large amounts of effluent that must be disposed of and the fact that this effluent can be obnoxious, a health hazard, and a pollution problem. It is obvious that a system of this type must be designed by a skilled and experienced sanitary engineer so that it will not create as many problems as it is trying to solve. This type of waste disposal requires approval by the Arkansas State Board of Health, Arkansas Pollution Control Commission, and other concerned Federal, local, and State agencies before the start of construction. In addition, a permit is required from the Arkansas Pollution Control Commission to discharge waste to the surface of the ground or to the waters of the State. As you can see, any method of waste disposal that releases waste to the surface of the ground is faced with problems ranging from control by State, local, or Federal agencies to law suits by damaged property owners, and will require a rather large outlay of money for construction and operation. Therefore, these types are suitable for large concentrations of population, such as cities, subdivisions, and must be fitted into the overall development of a recreational area.

The two types of primary interest are the septic tank with a sand filter, and the package extended aeration unit. The septic tank with a sand filter consists of a standard septic tank followed by a filter which contains from 18" to 24" of coarse sand and a suitable distribution and collection system in which biological degradation and filtration takes place to provide a certain degree of treatment. The package extended aeration unit consists of a tank to hold the sewage and a mechanical means of introducing air which supplies oxygen needed by the biological organism to degrade the waste. Then the effluent is allowed to settle and the solids are returned to the aeration chamber to further aid in the treatment. The relatively clear effluent is then discharged. This type of plant provides good treatment, but is expensive to operate. As in the case of conventional plants, the effluent from these two methods sometimes needs to be chlorinated as further treatment.

A problem area, often overlooked in a recreation area, is the need for the towns and cities within the area to be able to expand their sewage systems and treatment plant to meet the growth inside the city itself. This is true because not everyone is going to want to live with his feet in the lake, and these towns act as focal points for the recreational area. In addition, the majority of the service and support industries will locate in towns. The City should be prepared to meet this demand for services by having available a sound financing plan and engineering expansion program in advance of the need. Without this an old town within a recreational area cannot hope to grow and compete with the new developments.

The problems of sewage disposal in recreational areas are many and varied, and they change from day to day. Where a privy serves a campsite today, a central treatment plant may be needed to serve a motel, cafe, lodge, boat dock, or complex tomorrow.

In any event, proper use of sound planning, enforcement by State, local, and Federal agencies, judicious expenditure of funds and the use of other resources are needed to insure the proper disposal of sewage in any recreational area.

Gentlemen, remember that none of you can afford to allow ignorance, carelessness, or willful disobedience in the matter of sewage to ruin your recreational area and leave you in the plight of the yeast to drown in your own waste!

PLUMBING AND HEATING - James Shelton

You have had alpha and omega, the beginning and the end, and now, if I may, I would like to sandwich in here between Bob and Dick a word or two about the continuation of the water and where it meets the sewer. Plumbing is the foundation of good sanitation. It provides the water for drinking, washing and cleaning, and carries away the waste. And in doing this job there are many points of danger that work against the very principles of sanitation. Through cross-connections and back-siphonage, sewage can enter the water system through 200 known fixtures, devices and connections, and people who drink this kind of water usually get sick. So, a trip to a lovely State like Arkansas might end in sickness, and it has, through improper plumbing. A vacation to our State may end in tragedy by death; it has. We have a beautiful State, with opportunity for almost unlimited recreation.

But there is another side, and this is the side that we need to look into to see that our visitors can partake of our hospitality, visit our scenic areas, enjoy our hunting and fishing, and look at our points of interest without a breakdown of sanitation, or without facing sickness or death from poor heating and ventilation. I could talk for some time on a number of cases where people have been made ill or death has occurred due to faulty plumbing. To give you a couple, in Newton, Kansas, three thousand people went to the hospital because an incompetent person made a faulty yard hydrant installation. Very recently in Shreveport, Louisiana, seventy-nine people were hospitalized due to faulty plumbing installation. Now can you imagine a restaurant washing dishes in a sink where sewage backs up into the washing compartment? This is very common and yet it is so easy and economical to prevent.

Time doesn't permit me cover all the dangers of insanitary plumbing. We do have a plumbing program in Arkansas. We like to think that it is one of the better programs. Our plumbing law requires the examination and licensing of the plumber. This is done to assure that he at least has the basic knowledge to do a sanitary and safe installation. It makes him legally responsible for the installation so that we may come back and see that something is done about improper installation. We have a plumbing code which is a manual of safe practice. Some call it the Plumber's Bible. It sets up the safe requirements, for instance, in a Boy Scout camp where the shower drains out to an old place down the hill. I have had experience in this kind of situation. You had to stomp all the scorpions down before you could take a shower if you went over there early in the morning. So plumbing gets into recreational areas. We're going into resorts to stay or cafes to eat. These are usually a little out of the way, a little hard to find, and it is a little harder to get cooperation. So we do need help and cooperation in administrating our plumbing program. Of course, we review plans; we have a staff of State inspectors that are covering the State, making inspections. Our services are unlimited to any of you, to the recreation people, the hotels, motels, anywhere. We will be glad to offer the complete cooperation of our Division.

In the field of heating and ventilation, I feel I must talk just a little bit on this. I think that is where our program breaks down. We do not have sufficient regulations and laws to assure safe heating and ventilation. Most of the recreational areas would probably use gas heat. There should be a regulation to cover this. One of the particular deficiencies here is the need for supplying adequate oxygen for both the occupants and the gas equipment that may be burning in the room. With the tightly-constructed buildings that we build today, with gas equipment burning, and most of us accustomed to year-around air conditioning, very little thought is given to raising a window to the outside to bring in oxygen to support combustion and life. Far to often in this State and others, lives are lost, and it is usually said in the paper that it was gas fumes. Actually it was nothing but the lack of oxygen in the room. There is need for ventilation requirements to carry off these fumes but probably the greatest single need is the need for ventilation to replace the oxygen in the room.

QUESTIONS AND ANSWERS: Q. Mr. Hanns - What are the requirements regarding the design of drinking fountains for recreational areas? Mr. Sanders - A. I can't think offhand just exactly where this is pinpointed in our regulations; however, I believe Jim has some long standing requirements in most plumbing codes on this. Now I know that the Corps of Engineers has hand-force pumps in their public-use areas. They have a combination force-pump and drinking fountain. I've looked at these and they seem to me to be in accordance with good sanitation practices. You basically want an angled jet so that the stream of water does not fall back upon the orifice. I think that's about the basic things you would look for in a drinking fountain.

Two questions directed to Mr. Shelton: Q. (1) Do you consider the fire safety and the carbon monoxide potential hazards associated with these heating systems and ventilating systems? (2) How do you think the recreation area heating system hazards compare with the urban area heating systems? Mr. Shelton - A. Certainly you take into consideration the carbon monoxide and all phases of the system. It should be properly sized, it should be well vented and it should have a proper-size gas inlet. If butane is used, one should certainly be very cautious and careful that piping arrangements are proper, since butane is heavier than air. On your second question, the problem of the recreation area heating system hazards is a little more pronounced than it is in the urban area because the recreation area is farther away and authorities interested in dissiminating information about such hazards are not able to get to these areas. I'm thinking of fishing camps and places that are a little harder to get the educational information to. I feel there is a need for complete state regulation on the use of heating, ventilating, and air conditioning, too.

Q. Mr. Pefferkorn - Have you found it true, in recreational areas, that they are building cabins and putting hot water tanks in the toilet to keep them freezing in the winter and that we're overlooking the fact that the hot water tank is also used as a heating unit? A. Mr. Shelton - This is true, Mr. Pefferkorn. It may be a little more pronounced in the recreational areas in cabins that are being privately built. Then there is another danger, too. Most of the water heaters are subject to explosion if not properly installed. This is especially true of the closed-type system where you have a pump system with an isolated individual water supply.

Q. Mr. Lehr - I would like to direct a question to Mr. Shelton, also. Have you had any serious problems with carbon monoxide from heating systems in travel trailers? We have seen a number of cases where one vented heater is being used and sudden death occurs. A. Mr. Shelton - Yes, we have. The entire division personnel spent three weeks running down trailers over the State of Arkansas that had improper installations. We fortunately haven't had, to my knowledge, serious cases or death from it. Q. Mr. Lehr - One hopeful development is the development of new American standards on travel trailers. Have you seen some of these? A. Mr. Shelton - Yes there is considerable effort at the National level for both plumbing and heating standards for the trailer coach manufacturers and it is coming close, I think, to being a standardization that will be adopted by the whole industry.

Q. Mr. Kellogg - Jim, would you comment on the prefabricated plumbing systems in travel trailers, and give your opinion on a method of approach for correcting them within the State of Arkansas? A. Mr. Shelton - You are talking about the Christmas tree for cottage and trailer? Well, generally speaking the Christmas tree, which would be a complete system of what you might call rough-ins, these are fixtures that are manufactured outside the State and are neither inspected or looked at. There is no telling who made the installation or how it was made. Very often they are enclosed in the walls and you could have backsiphonage possibilities covered up in the walls, which would cover a number of different gases, and then vermin possibilities are prevalent, too. I feel that where you are manufacturing or putting these things out on a large scale it should be done by competent people and by a safe, reasonable standard.

Q. Joe Schock - How many water supply systems serving recreation areas in Arkansas follow a routine bacteriological sampling program? Are waste stabilization ponds used for sewage disposal in recreational areas in Arkansas? A. Mr. Sanders - I'm afraid I don't have a real good answer for you, Joe, on that. I have not made a count of the recreational area water supplies in the State. I'd have to guess, so I am not going to be able to answer that. I know that, frankly, we are not getting the cooperation in the submission of samples for bacteriological examination that we should be getting. Because this is somewhat of an interagency meeting, I would hope that this will stimulate the agencies represented here into getting their field personnel to comply with these regulations and submit water samples more frequently in the future than has been done in the past. A. Mr. Starr - Yes, I think so. I purposely left waste stabilization ponds out as a direct item in my topic because we primarily consider them to be a means of conventional sewage treatment.

We have waste stabilization ponds in our recreational areas. However, they are primarily serving on municipal sewer systems. The very very small waste stabilization pond, say for serving a small resort complex, to my knowledge we do not have. You have a problem of effluent disposal. In Arkansas we have various types of waters. We have lakes that you cannot dump sewage into and lakes that you can dump into, under certain conditions. All water sources, with the exception of the Arkansas River and the Mississippi River, require primary and secondary treatment, so they have not come into too much use in the recreational areas for small developments.

Q. Mr. Holy - While you have the mike, Dick, would you mind also discussing the seasonal loadings that have to be provided for in a recreational area disposal system, the design problems involved, because of the number of visits during the seasonal periods? A. Mr. Starr - Yes, the variations in some cases are tremendous. A particular example in recreational up surge is the Hot Springs area during the racing season. This presents a problem to the developer and the resort owner who wants to put in a proper sewerage system. He must be able to handle a maximum load. Therefore, he is going to have an excess treatment capacity during the slack seasons and during his inter-shutdown period. This must be taken into consideration and is a definite problem.

Q. Corps of Engineers - Do you permit the discharge from waste stabilization ponds into a recreational reservoir? A. Mr. Kellogg - Yes, with certain qualifications. The ultimate use of the reservoir, plus the degree of treatment given the effluent. If the discharge is in a recreational area, we may say no. Q. Corps of Engineers - What regulations do you have relative to controlling people who pump out septic tanks? A. Mr. Starr - At the present time we have no licensing program on these septic tank pumpers. Most of the disposal in highly populated areas goes back into the municipal sewer system. I would say that most of our policing is done through our local health units by our local sanitarians, who are familiar with them and make sure that they dispose of it in a proper manner.

Q. Mr. Holy - What about housing standards for houses that are located in recreational areas? A. Mr. Kellogg - County Planning Commissions in Arkansas have the authority to initiate a permit system, countywide. Not many have utilized this authority, however.

Q. Question not understood. A. Mr. Sanders - Now, sending samples of water, as we were discussing a while ago, for bacteriological examination. They must be submitted in standard sample containers, which we will provide you, and it is a free service. They must be collected by the use of proper sampling techniques, so that you don't contaminate the sample with your hand. You ask about the treatment of surface water. I mention that we prefer the use of surface water. I mention that we prefer the use of surface water least of all for recreational areas because of the difficult operating problems, the difficulty of protecting your source of supply. It is just more of a calculated risk to use a surface source in recreational areas than it is a good ground water source. You ask about springs. Occasionally you will find a spring that can be properly protected against contamination and used probably with nothing more than chlorination. Springs become turbid periodically and this type of a spring you would need to adequately protect. Then you'd need to think about providing filtration to remove your periodic turbidity, plus disinfection with chlorine.

FOOD SANITATION - Mr. Hanns

My first experience in recreational sanitation occurred a good many years ago. We had a bathing beach and it had a little wooden building with a food service operation and bathhouse. I had only been working a few months and I went out to inspect his food service operation, which was very marginal to say the least. When I got through inspecting and discussing it with the operator, the first thing that he said was: "Doggone, last year some character from Little Rock came up here and told me to put a concrete floor in my bathhouse and shower area and now you come along and tell me that I've got to remodel my food service," which he did. The sequel to the story is that about two years later I talked to this individual and he told me that his business had increased terrifically, since he remodeled. So, I think that this points out that recreational sanitation is on the increase, it's not something brand new and it does pay dividends.

The food sanitation program in recreational areas has the same objective as it does in all other areas. That is to insure that the food served or sold to the public is safe and wholesome, that it has been produced and prepared under sanitary conditions, and that it has been stored and served under acceptable conditions.

The Division of Food and Drug Control is assigned certain responsibilities by the laws of Arkansas and by the regulations of the State Health Department. A great deal of our program is carried on by the sanitarians in the local health units. We primarily concentrate on the areas where the local health units for various reasons cannot work effectively. We also attempt to give some service to those areas that do not have local full-time environmental health personnel. Unfortunately, the twenty-five or so counties, which are about one-third of the counties in Arkansas, who do not have local health unit personnel, are also those counties where a large portion of our recreation industry is located. The regulations of the State Health Department on food service and food processing require that plans be submitted for review and approval prior to construction. The theme of this Conference has, so far, been planning. I can't over-emphasize the importance of preplanning in the construction of a food service operation. So often we find an establishment in operation, that has been built rather rapidly, looks very nice and, even from the standpoint of the major items of sanitation, may comply, but there are many things that cause problems that could have been eliminated by just a little planning and plan review.

In our recreational areas we do have some differences from our regular food protection program. One of these, as I have mentioned, is the lack of full-time environmental health personnel in a lot of these areas. Even in the areas where we do have a full-time sanitarian he always has all that he can possibly get around to doing, and with the influx of tourists it is just another added load. Now another problem we encounter in the recreational area is the seasonal aspect of a lot of the food service operations. Not all of them will close during the winter but a great number of them operate only during the tourist months. We find that it is extremely difficult to convince a person, who is operating on a seasonal basis, that he needs the equipment and the supplies that a full-time food service operation needs. Another problem that we have is the turnover of operators. About the time you get to know the operator of an establishment, he has closed up for the winter. When you go back the next year you find that a new person is operating. Along with this aspect and turnover, we have the great difference between the number of meals, shall we say, in the winter time and in the summer. One place that I am familiar with, a restaurant in a small town located in a lake area, averages serving about 50 meals a day during the winter; in the tourist season, he serves five hundred or more meals a day. Certainly it doesn't take much imagination to see that there are some inherent problems here. First of all, as was mentioned in the discussion of sewage disposal, you have to design for the peak load. But there are economics involved, too. Consequently, if you go into this place in the winter, the operator will have adequate sewage disposal, and he may even have an adequate hot water supply for operating his dish machine. But if you go in there in the summertime, his refrigeration is over-loaded. If you hit him an hour after meal time, his hot water tank is just about to give up the ghost. His storage area inadequate, so consequently he has soft drink bottles back under the sink and in the middle of the floor. I've even encountered operations where perishable food was stored out in the middle of the kitchen because the operator didn't have room in the walk-in refrigerator. Now these are things that the food service operator needs to be aware of when he is going into business in a recreational area. These are problems that the health agency can point out to him which he may wish to consider in his planning. Very often, since it is a seasonal operation, we find that operators will try to get by with inadequate equipment because it is going to sit there six months out of the year and not bring him a return on his investment.

We have a lot of food service in prepackage forms, particularly around boat docks, swimming areas, and so on. We have to determine the source of these prepackaged foods. In some of our areas, bordering along other States, we may find prepackaged sandwiches being brought in from another State. Then we have to work with the other State to determine whether the sandwiches are actually being produced under acceptable conditions and being transported to outlets under proper conditions. Vending machines have inherent problems built into them. We recognize these problems and have been able to overcome some of them by working with the vending machine people. Many of our resort people or motel operators rent so-called kitchenettes units which have a complete set of dishes, a refrigerator, and cooking utensils. You can rent these by the day, week, or month. The question was raised about the possibilities of disease transmission here. Suppose someone rents one of these kitchenettes, using the utensils, and has an active case of tuberculosis. The dishes, to my knowledge, are never really sanitized, as they are in a restaurant. The unit usually has a one-compartment sink and you wash the utensils just as you do at home. This question was particularly raised in a food service establishment. It is a gray area and no one has come up with a decision as yet. But from the point of view of disease transmission, it may bear some investigation.

One of the services we can offer to individuals in the food service business, not only in recreational areas but other places, aside from review and advice on sanitation problems, is food handler training. We have attempted in the last few years to direct our training of food service workers primarily toward management. We're not a hundred percent successful in this because we still have people who think that we need to get the waitresses in and teach them how to comb their hair and wear low-heeled shoes and not too much jewelry. I think this is fine and that they should be taught this, but in my opinion, this is vocational education. I believe that our function in training food service people should be directed toward management, to teach them some of the basic principles of sanitation, disease prevention, and cleaning equipment. Management is going to be there. After all management is legally and morally responsible for the operation of the establishment. If you can train the manager, he should be able to supervise and train his help in the various jobs. Very often this type of training can be carried on during the "off" season. Here again you have the problem of the seasonal operator who may go to Florida in the winter time, or to some other part of the country. However, we find that a lot of these people who remain in the area during the "off" season that could be asked to attend a series of training courses during the winter time and slow season.

So far, I have talked primarily about food service establishments. I might mention one other aspect of food that we're concerned with: the foods that are sold at the tourist stop and the gift shop along the highway. A lot of packaged jellies and other prepackaged foods, such as candies, are offered primarily to attract the tourist. We feel that these foods should also be from an approved source. They should be stored properly if they are of such composition that they may spoil and they should be properly labeled. We call on such establishments quite frequently. Many times we get inquiries from people operating gift shops who want to know where they can get a good source of certain types of candies or sassafras tea roots, or other products to be sold to the public. Also, we are concerned with the source of milk and frozen desserts that are served or sold in these establishments. We have a Division of Dairy Products and a Division of Fluid Milk Control which work primarily in these fields, but of course when we're in the food establishment itself we check on the sources of these products. To my knowledge there is no area of Arkansas that does not have access to a Grade A pasteurize milk supply. It hasn't been too many years ago that it was quite common to find milk at a summer camp that came from a neighboring farm and it was dipped out of ten-gallon cans. But in this day and age there is a good source of milk available to all areas.

Ice is another area of concern. Ice is water and apparently water is not a food, until it is frozen, but then when it becomes frozen it becomes food and the food service regulations have a section covering the handling of ice and how it shall be delivered. Now we have a lot of work on ice supplies in Arkansas. If you are operating a motel, check your ice bins once in a while and clean them out. Scrutinize the ice that is delivered to your establishment, and if it has foreign material in it, call it to the attention of the operator of the ice plant first. If he doesn't take action, then I suggest that you contact us and we'll see what we can do.

We're talking about sanitation of eating and drinking utensils. Don't forget the glasses that are provided in the cabin or in the motel unit where tourists are staying. We have talked about eliminating the common cup. They give the Crumbine Award each year in memory of the man who did that, but now we have the glass instead of the cup. There is a very effective way to tell whether a glass is clean. When you pour a carbonated beverage into it, if a lot of bubbles adhere to the side and the bottom, that means it hasn't been cleaned properly. So the next time you drink some type of carbonated beverage, run this little test. You might even be surprised at what you find if you run it at home. Of course, you want to be careful what you say to your wife about it or you will wind up cleaning the glasses yourself. This is a very effective field test. If you have problems in food sanitation and you feel you need assistance, first of all contact the sanitarian in your local health department, if you are fortunate enough to be located where you have one. If you do not, I suggest that you direct your inquiries to our department.

VECTOR CONTROL - Kent S. Littig, R.P.S.

The enjoyment of outdoor recreational areas is a healthful means for utilization of free time for school children and for the family as a group. The peace of mind and feeling of well-being and pure enjoyment that are so much a part of recreation may give way to displeasure, or even acute distress, if a trip is marred by mosquito, tick, and chigger bites, hordes of filthy flies, and an abundance of cockroaches and rats in camp buildings.

People camping in wild areas should know what to expect in the way of vector problems and should come prepared to meet their own needs. Permanent recreational areas, because of the more intensive use by the public, have different problems that must be met, to a considerable extent, by the staff responsible for maintenance of the area. There must be some balance in these operations, as people do not enjoy a wasteland in which excessive application of chemicals has decimated the populations of birds and beneficial insects. This brief talk deals with vector control in established recreational areas.

General Environmental Procedures - Mowing or clearing grass and undesirable brush from the immediate campsite reduces the problem of ticks and chiggers and does away with resting places for mosquitoes. Clearing a narrow strip on each side of much-used paths further reduces the tick and chigger problem, and also the danger of snake bite. Ticks and chiggers rest on vegetation awaiting their hosts, and attach themselves to humans and other mammals that disturb the vegetation along paths.

Sanitary maintenance of food-handling facilities, and the storage of refuse in tightly covered cans lowers the potential for cockroach, fly and rat populations. Recreational sites are attractive to these pests because of the carelessness of people. The most troublesome species are rare in areas not inhabited by man, and it is his own carelessness that creates the problem. Suitable signs and helpful supervision are needed to encourage good manners at recreational sites.

Control Measures - Ticks, Chiggers and Mites

Ticks are vectors of Rocky Mountain spotted fever, Q fever, tularemia, and relapsing fever, and often cause tick paralysis. When, after a camping trip, a child has a rapid upward progression of paralysis starting with the feet and legs, tick paralysis must be suspected. The tick is often found in the hair of the head above the neck and the patient recovers in a matter of hours after the tick is removed. Our neighbor's dachsund, in Pine Bluff, has a severe attach of tick paralysis and the veterinarian failed to find the tick. The owner removed the tick, and recovery was rapid. People in recreational areas should search themselves and others each day to find and remove ticks. Better yet, they can use tick repellents such as diethyl toluamide (Deet or Off) and prevent the attack of tick and chiggers.

Both ticks and chiggers may be controlled by the application of DDT, toxaphene, chlordane or dieldrin along paths and in tent sites at the rate of 1 to 2 pounds of actual toxicant per acre. This would be 10 to 20 pounds of a 10 percent dust. Cotton dust containing toxaphene is used to good effect in Arkansas. The material may be applied as a dust, suspension, or emulsion. Good control has been obtained with 15 to 20 pounds of dust containing 3 percent gamma isomer of BHC per acre. Do not be discouraged if more than a week is required to get good control. Applications should be made at least 4 weeks before use of the recreation site begins, and control will last for a period of several months.

Mosquitoes - Most recreational areas in Arkansas are well drained and mosquito problems are relatively light. In the rice-growing areas, there is no economical way to control mosquitoes except for the rice growers to treat the irrigation water. In other parts of the State the use of repellents and aerosol sprays by visitors should usually maintain comfort. The repellents are used by individuals while fishing or engaged in other outdoor activities, while an aerosol bomb containing pyrethrins or dichlorvos (DDVP) is used for space treatments within the tent, cabin, or trailer. If the recreation area has a commissary, it should stock repellents and aerosol bombs.

Should mosquito control prove necessary, protection can be given to the immediate campsite and a barrier strip about 1,000 feet wide around the site by use of a fog or mist applicator. Most equipment will treat a swath about 300 feet wide, and the insecticide must be applied downwind. Applications are most effective at night or near sunrise and sunset when the mosquitoes are active and there are no excessive winds.

Malathion 5 percent solution in oil is applied at the rate of 0.1 pound of actual malathion per acre. Applications every 24 hours may be necessary if the mosquito problem is intense. This material soon breaks down and leaves no residual poison for wildlife, and there is additional safety in the very light dosage used.

Fly and Rat Control - If adequate restrooms or latrines are available, the contamination of houseflies will be unlikely and they will not carry the organisms of diarrhea - dysentery disease. Flies and rats are controlled chiefly by good site sanitation. Garbage in tight cans must be removed from the site for disposal or buried under two feet of compacted soil. In some campsites, a landfill trench is dug prior to the season of use and the refuse is buried daily with soil cover.

If a screened mess hall is used, most flies can be kept out by the use of an electric fan pointed downward above each door. Flies are repelled by such a blast of air. Making certain that screen doors are closed will keep out most flies and rats as well. An aerosol spray or dichlorvos strips may be used indoors for fly control.

Most recreational areas remote from the city do not have many Norway rats, but if they are present the new rodenticide Raticate may be used. It will not kill other species of animals, including other types of rats. Warfarin may be used for the control of most rats and mice, and the snap trap is effective if set properly.

Cockroach Control - Cockroaches are not a real problem in a clean recreational area, and the woods roach, *Parcoblatta*, is the chief villain unless you have brought in a domestic species with such supplies as cold drinks, potatoes, and onions. The following sprays are used for cockroaches:

Fenthion	3% emulsion or solution
Chlordane	2.5 to 3% solution
Diazinon	0.5% (PCO's may use 1%)
Malathion	1 to 5% spray or dust

These insecticides are applied to cracks and crevices where cockroaches seek harborage. General applications must not be made, and food and utensils must be protected from the spray.

This brief discussion does not permit much detailed information on vector control. If, to start with, you have a properly constructed recreational site located in a well-selected area, and if it is properly maintained, it will bring much pleasure and few headaches. More detailed data are provided in the "Public Health Pesticides" reprint furnished for those who may wish it for the CDC recommendations. It is a pleasure to be back in Arkansas, if only for a few days, for this is a beautiful State, noted for its friendly people and for its contributions to public health.

Summary - Visitors to outdoor campsites and recreational areas must be protected from the annoyance and hazards created by insects, rodents, and snakes. Area preparation by the maintenance staff before the season of use begins will afford considerable protection for several months. Adequately covered garbage pick-up, with suitable signs and supervision to encourage good manners on the part of the public; properly constructed and well-maintained restrooms or latrines; the judicious use of repellents, insecticides, and rodenticides -- all these will help reduce hazards and increase the public's enjoyment of recreational areas.

REFUSE HANDLING - J. C. George

I was reading in Parade Magazine some weeks ago about an interview held with a foreign visitor to our land. He was asked what he noticed more than anything else about this great Nation. He said. "Prosperity is great and opportunity is unlimited," but he also said that we appear to be a Nation of prosperous junk yards. This is due to the fact that we are willing to, and have been , spending millions of dollars on such good things as space exploration, water pollution, and many other Federal projects, but have been neglecting the appearance of our own back yards.

Refuse is divided primarily into three groups: garbage, rubbish, and ashes. Garbage is waste from food handling which is putrescible. Rubbish is now putrescible waste, and ash is residue from burning combustible material. A proper refuse program involves storage, collection and disposal. Proper storage is of utmost importance if we expect the recreational areas to be free from rats, flies, and the junk yard appearance. Proper storage also speeds collection to have proper storage, we must have proper containers in adequate numbers, and they must be well placed. The containers for garbage should be watertight, rust-resistant, easily washable. If the conventional 20-to 30-gallon garbage can meets these criteria, they are acceptable, with certain qualifications, such as container racks which are mandatory for the light-weight type of cans.

In the recreational areas, animals create special problems. Racks in recreational areas should be constructed so that wild animals will not be upsetting the cans. Fifty-five-gallon oil drums make excellent storage containers in recreation areas, if tight fitting lids and handles are provided.

For campgrounds we can expect approximately 0.18 cubic foot of refuse per person per day. Based on this, a thirty-gallon garbage can accommodate 30 campers for one day. Or if twice-a-week collection is practiced, this size would accommodate about 7 people. A routine and well-organized collection practice is an essential part of a refuse program. All refuse should be removed from the premises as frequently as is necessary to prevent nuisance and unsightliness. The number of collections necessary per week will depend on, among other things, the type of isolated area to be served. Experience has shown that daily collection is necessary for food service establishments. Twice a week is generally sufficient for residential areas and twice a week or as much as daily for recreational areas depending on the useage. The main types of acceptable collection vehicles are trucks with watertight, covered beds, closed bed or a flat bed if can exchange is used. Packer trucks are ideal and have the advantage of a low loading height and can hold a much greater volume due to the compaction of refuse. Open type trucks can be used if a cover is used to prevent scattering of paper and other refuse.

How do we dispose of this refuse economically? Sanitary landfills, incineration, composting, and garbage draining with disposal to the sanitary sewer system have been used successfully with municipalities, but this becomes almost economically impossible or unfeasible with some recreational areas which are located outside of metropolitan areas. Figures prove that 20 miles is the most economical distance to haul refuse. Almost none of the recreational areas in Arkansas could come within this figure. Take Greer's Ferry Lake, for example. We would need a landfill for each of the recreational areas. The red marks indicate recreational areas on the map. So, of course, that same argument holds true for incineration, composting, or the others. To solve this problem we must use some modification of our recognized standard sanitary landfill, such as a trench, or several trenches, strategically located in the area to serve several of the recreational areas. The trench could be large enough to take the tourist load for the complete season, and covered by hand, as is necessary during the season. If a good design of a small incinerator could be made, it could be located where it would serve several areas. Presently at Greer's Ferry Lake they are collecting all the refuse from the areas and bringing it to the city dump. This is ideal, except that it is a long haul from each of the areas and back into the city dump. However, with the use of pickup trucks, the economics of this operation are not out of line. Another method which has been proposed, and one we certainly do not encourage, is the feeding of garbage to hogs.

Refuse handling is a problem in our recreational areas, but it is one that we must solve and constantly work with. Standard procedures which are used for cities, such as composting, incineration and sanitary landfill, are not as a rule economically feasible for recreational areas, but some modifications can and are being used.

ENVIRONMENTAL HEALTH ASPECTS OF TRAVEL TRAILER PARKING AREAS - Joseph P. Schock

More families every year are finding that the travel trailer is the solution to their vacationing problems. Whether the reasons for travel trailer use are economy or convenience, the ability to visit almost any part of the country and take along many of the comforts of home appeals to many travelers.

The great increase in the number of travel trailers on the highways during the vacationing months is quite evident to the motoring public and reflects the increasing amount of leisure time and extra spending power being enjoyed by more people each year. It also points up the need for more travel trailer parking areas, with related sanitary facilities, which meet accepted standards of health and safety.

During and following World War II, the trailer coach provided inexpensive year-round living accommodations for a growing number of Americans, primarily construction workers and military personnel moving about the country. Units manufactured at that time were relatively small and easily transported, and consequently they became very popular. However, in many instances, parking facilities for the thousands of units in use during the post-War period were far from satisfactory in terms of site location and general sanitary conditions. State and local health agencies were gravely concerned, but the health problems were not to be resolved by prohibiting trailer coaches from stopping inside the city limits, which was the historic approach taken in many areas. Industry was becoming concerned with their future.

In recognition of these problems, State and municipal health authorities requested the Public Health Service to undertake the development of basic sanitation principles relating to trailer coaches that would be broad enough in scope for Nation wide use and yet amenable to local regulation. Industry also considered this endeavor significant to their cause and the Mobile Home Manufacturers Association, headquarters in Chicago, Illinois, the major trade organization expressed a desire to collaborate in the development of a publication containing basic principles of sanitation for trailer coach courts. In fact, they were willing to produce and help distribute the publication as a public service. The publication developed, "Trailer Court Sanitation with "Suggested Ordinances and Regulations," was published in 1953. Since that time there has existed a highly cooperative relationship between the Mobile Homes Manufacturers Association and the Public Health Service, truly an excellent example of Federal agency-industry partnership.

Following 1953, in response to public demand and consumer trends, manufacturers began producing a larger and better-equipped version of the trailer coach, known as the mobile home. The mobile home, usually placed at a fixed location for two years or more at a time, provides ample space, modern appliances, and other improved facilities for comfortable family living. This transition created the need to revise Trailer Court Sanitation, which was done in 1960 in cooperation with the Mobile Home Manufacturers Association. The new guide was entitled Mobile Home Park Sanitation with a Suggested Ordinance.

Associated with the development of the mobile home for permanent living was the continued development of the smaller, more transportable version of the "trailer coach" which is now referred to as a travel trailer. Travel trailers and related vehicles, growing in popularity in recent years, are used primarily for recreation and vacation purposes, and not for year-round living.

In 1956, approximately 15,000 travel trailers were produced. It is estimated that in 1964 there were about 400,000 travel trailers being used by 1 million people and that there were more than 2,000 privately owned parks and 1,200 National and State parks, monuments, and forests providing accommodations for trailers and their occupants.

Many health hazards are being created by insanitary travel trailer parking areas, where lack of attention to such elementary factors as overcrowding and improper disposal of sewage and refuse is commonplace. Such conditions endanger not only the health of the trailerist, but also that of residents of adjoining communities.

Many State and municipal health and other regulatory authorities, as well as developers and builders of parking areas, are recognizing that there is a pressing need for properly constructed and maintained travel trailer parking areas specifically designed to serve the increasing numbers of Americans using travel trailers and other recreation vehicles. Developers and builders of parking areas have expressed concern over the absence of uniform design standards which can be applied to the travel trailer parking areas being developed in and near municipalities and recreation areas across the Nation. The PHS is currently working with the Mobile Home Manufacturers in the development of the Environmental Health Guide for Travel Trailer Areas, with a Suggested Ordinance and the Environmental Health Guide for Mobile Home Parks, with a Suggested Ordinance, a revision of Mobile Home Park Sanitation.

Travel Trailers - For the purpose of determining the needs of travel trailer parking areas to provide toilet, bathing, and kitchen or other liquid waste disposal facilities, trailers are classified as follows: (1) Dependent Trailers - A trailer having only sleeping and usually kitchen facilities; (2) Self-Contained trailers - A trailer which can operate for short periods of time independent of connections to sewer, water and electric systems. It contains a water-flushed toilet, lavatory, shower and kitchen sink, all of which are connected to water storage and sewage holding tanks located within the trailer; (3) Travel Trailer - A vehicular, portable structure built on a chassis, designed as a temporary dwelling for travel, recreation and vacation, having a body width not exceeding eight feet and being of any length, provided its gross weight does not exceed 4,500 pounds, or of any weight, provided its body length does not exceed 29 feet; (4) Pick-Up

Coach - A structure designed to be mounted on a truck chassis for use as a temporary dwelling for travel, recreation and vacation; (5) Motor-Home - A portable, temporary dwelling to be used for travel, recreation and vacation, constructed as an integral part of a self-propelled vehicle; (6) Camping Trailer - A canvas, folding structure, mounted on wheels and designed for travel, recreation and vacation use.

Current information obtained from the travel trailer industry indicates that approximately 50% of the trailers being used are the Dependent type, while the remaining 50% are the Self-Contained type.

Most of the larger travel trailers are provided with a 20-30 gallon potable water pressure tank, with a 3/4 inch hose bib-type inlet coupling for hooking up to municipal or park water supply system to fill the tank or for direct service to the trailer water distribution system. Many trailerists also carry a few 5-gallon containers to supplement this supply.

Sewage holding tanks, often identified incorrectly by industry and users as "septic tanks," are provided on larger trailers and generally have a capacity of 10-40 gallons. It is estimated that a 40-gallon tank will allow a family of 4 to park for 3 to 4 days independent of an outside service connection. These tanks have a 3-inch drain outlet to permit: (1) retention of toilet, shower and sink wastes; or (2) retention of toilet wastes only; or (3) connection to an individual sewer riser outlet at the parking area for continuous discharge; or (4) disposal of tank contents at a sanitary station or other approved location.

In addition, some sinks on trailers are provided with separate drain outlets to which hoses are attached for discharging to sewer outlets, buckets, seepage pits, or on-the-ground surface where the greasy wastes create fly and odor-control problems.

Portable chemical toilets, with a holding capacity of about 5 gallons, are used in some trailers and, because of their small size, can be stored under beds or other furniture. These units must be carried outside the the trailer for proper sewage disposal.

Many trailers have their own LP gas supply (Liquified Petroleum - Propane or Butane) in tanks usually located on the A-frame at the front of the trailer. All may have gas (or possibly oil) space heaters. The larger ones are always so equipped. They usually have a 12-volt light and appliance system. The electrical equipment is often convertible to 110-volt use, when available, to save battery drain.

Recommended standards for travel trailer utility systems are contained in American Standard Installations of Plumbing, Heating, and Electrical Systems on Travel Trailers, American Standards Association, A119.2-1963. All members of the Mobile Homes Manufacturers Association and the Trailer Coach Association are requested to construct trailers in compliance with these standards, which provide assurance of a reliable, healthful and safe environment for the trailerist.

Sanitary Station - The widespread use of trailers provided with convenient holding tanks for sewage wastes has created a public health problem -- the indiscriminate dumping of sewage along highways and in recreation areas, a practice which can and should be controlled by provision of the newly developed low-cost sanitary station. These stations are being installed in many recreation areas. Several major oil companies are installing them next to their gas service stations for the convenience of travel trailer owners. It is estimated that there are over 1100 sanitary stations throughout the country today. The station is equipped with a foot-operated seal cover for sanitary closure of the sewer pipe inlet when not in use. One end of a drain hose is connected to the holding rank of the travel trailer; the free end is placed in the drain opening while the cover is opened and the tank is emptying.

A concrete apron surrounds the sewage inlet, and a slope gradient permits washdown of the immediately adjacent area. The water hose for this washdown on some stations is a modification of an upright gasoline station air hose tower. It is spring-loaded at its midsection to return it to vertical position after use. The nozzle end clears the ground by 18 inches and a vacuum breaker prevents backsiphonage into the water supply.

Travel Trailer Parking Areas - There are two basic types of travel trailer parking areas: overnight and destination. The overnight travel trailer parking area is usually located along or near a main highway for travel trailerists who may want to stop for one or two nights on the way to some farther destination. The destination type of travel trailer parking area is usually located at or near a scenic or historic area, or near camping, fishing, hunting, boating, swimming, skiing, or other outdoor recreational activities, where the duration of stay may be for several days or weeks. These parking areas should have more elaborate facilities than the overnight-type, including individual water and sewer service connections, a lower density of parking spaces, laundry facilities, and possibly a recreation building. Some parking areas are developed for both overnight and destination needs.

A third parking area category that is resulting from the increase in travel trailer clubs, and their desire to tour the country in groups, is the rally parking area. This is the focal point of a group that stays overnight or for a few days and then proceeds home or to other parking areas.

The travel trailerist going to or from his destination vacation spot might not be too concerned with esthetics or scenery, but he is quite concerned with convenience of location to the highway, cleanliness and orderliness of the area, adequate parking space, proximity to eating establishments, and the cleanlinss and adequacy of the service building facilities. The desire of the vacationing travel trailer family for a clean, dignified location in a community where they will feel secure and accepted for the duration of their stop should be considered by prospective park owners and community officials.

Facilities for Travel Trailer Parking Areas

Site Selection - To be most acceptable, sites for travel trailer parking areas should not encroach on any scenic, scientific, or historic values in an area. The availability of adequate water supply and satisfactory means of sewage disposal is also a basic consideration in selecting a suitable site. Sites should be well drained and free of obstructions. An important consideration for overnight use is accessbility to main roads and tourist services such as restaurants and shopping areas.

Road and Parking Areas - Roads where practicable should help to preserve natural features. They should be paved to control dust and made One-Way to minimize traffic problems. Curves should be designed to accommodate the travel trailer and its towing vehicle. Curves on interior circulation roads should have a minimum inside radius of 25 feet and on exterior circulation roads a radius of 40 feet. Grades should be as minimal as possible, because some trailers put a heavy load on the towing vehicle. Maximum grades of minus 6 percent and plus-4 percent are recommended.

Drive-through parking spaces which permit occupancy while the trailer is still hitched to the towing vehicle are preferred to back-in-type parking spaces, particularly for overnight parking. Back-in-type parking is most suitable for destination areas. Parking spaces for travel trailers should be level in cross section and on a grade for drainage. Maximum grades of minus 1.5 percent and plus-3 percent should be used for the drive-through spaces.

Density Requirements - Experience has shown that it is difficult to obtain a proper design and maintain adequate environmental sanitation in parking areas with more than 25 trailer spaces per gross acre. Thus 25 spaces per acre should be considered the maximum permissible density.

Water and Sewer Facilities - A sanitary station should be provided in each travel trailer parking area for the proper disposal of liquid wastes from sewage holding tanks. At least one sanitary station should be provided for every 100 parking spaces or fraction thereof. Individual water and sewer risers in each space are desirable, especially for self-contained travel trailer spaces.

The need for individual water and sewage service hook-ups is often a matter of local determination and is based on such factors as duration of stay in the park, amount of convenience desired by the travel trailer owner and park operator, and volume of business handled. The most satisfactory arrangement from the public health viewpoint is the provision of individual water and sewer connection facilities at each space; however, from an economic viewpoint, the ability to install these, especially for overnight parking, is often limited or impractical. Where a water supply connection is provided, it should consist of a riser terminating at least

4 inches above the ground surface, with a 3/4-inch threaded valve outlet with a cap or screw plug. The riser pipe should be designed so that it can be operated during freezing weather and drained if necessary. This may require electrical heater tapes or specially constructed risers.

Each travel trailer parking area should be provided with easily accessible water supply outlets for filling travel trailer storage tanks. A suggested ratio is one outlet per every 100 parking spaces or a fraction thereof.

An individual sewer connection, where provided, should consist of a 4-inch riser trapped below the ground surface with at least a 3-inch sewer connection extending above the ground surface and provided with an easily removable watertight cap or screw plug. The connection should be protected against "wheel damage" by a concrete collar or by some other protective measure.

Liquid wastes from sinks should not be discharged onto or allowed to accumulate on the ground surface. Where sewer outlets at the travel trailer site are not provided, seepage pits may be provided for the disposal of sink wastes where a direct connection is made between the sink drain and the seepage pit. Approval for this type of installation should be obtained from the health authority having jurisdiction.

Refuse Disposal - Adequate facilities for the storage, collection, and disposal of refuse should be provided for the travel trailer parking area. Refuse should be stored in durable, fly-tight, watertight, and rodentproof containers which should be kept clean and in good repair. Permanent locations should be selected for refuse containers, and satisfactory racks or holders should be provided to keep spillage and container deterioration to a minimum. A rack station should be located near the circulation roads and a maximum of 150 feet from any travel trailer space.

Service Building - A central service building containing the necessary toilet and other plumbing fixtures listed below should be located in a travel trailer parking area which provides parking spaces for Dependent travel trailers. Service buildings should be conveniently located for the number of parking spaces within a radius of approximately 300 feet.

Where a travel trailer parking area is designed for and exclusively limited to use by Self-Contained travel trailers, a service building containing toilets, urinals, lavatories, and showers is not required.

Number of parking sites (a)	Toilets		Urinals	Lavatories		Showers		Other Fixtures (b)
	Men	Women	Men	Men	Women	Men	Women	
1-15	1	1	1	1	1	1	1	1 slop sink. (c)
16-30	1	2	1	2	2	1	1	
31-45	2	2	1	3	3	1	1	
46-60	2	3	2	3	3	2	2	
61-80	3	4	2	4	4	2	2	
81-100	3	4	2	4	4	3	3	

For parking areas having more than 100 travel trailer sites, there should be provided 1 additional toilet and lavatory for each sex, for each additional 30 travel trailer sites; 1 additional shower for each sex for each additional 40 travel trailer sites; and 1 additional men's urinal for each additional 1,000 travel trailer sites.

(a) Parking space for Non-Self-Contained travel trailers.

(b) Additional fixtures, including laundry trays, clothers-washing machine (1 for every 30 sites), and an ice-making machine, may be desirable.

(c) A slop sink for disposal of liquid wastes, unless a sanitary station is conveniently accessible for this purpose.

Electrical Service - The electrical service to the travel trailer site preferably should be provided by means of a direct-burial underground cable, connected to a receptacle mounted on a weatherproof type, or the receptacle should be mounted in a weatherproof box.

All electrical wiring should be in compliance with State and local codes or, where none exists, with the National Electrical Code.

SANITATION AND THE REAL ESTATE DEVELOPER - William J. Allbright

It is a bit presumptuous of me, a layman before a group of sanitation experts, to try to tell you anything about sanitation. I am not going to do that, but I will try to tell you about some of my experiences with sanitation problems in the City of Heber Springs, Arkansas. I am not only Mayor of Heber Springs, I am also the real estate developer, and many of these problems I have had to solve in that connection also. I think that the City of Heber Springs is the friendliest, the most progressive, and the most beautiful lakeshore city in this part of the country. As many of you know, Greer's Ferry Lake is one of the newest water recreation areas to be created in the Arkansas Ozark's. It's located on the Little Red River in Cleburne and Van Buren Counties, approximately 50 miles by airline due north of Little Rock. The town of Heber Springs itself is on the eastern edge of the reservoir, about 3 miles southwest of the dam. Impoundment of the lake was started early in 1962, after the dam was completed. However, shortly after the lake started to fill we had about a two-year drought that delayed the filling. Right now, for the first time, it's about to get full, up to the top of the power pool.

At the present time the lake has a shoreline of over 300 miles and it is about 50 miles long in an East-West direction. This area, as we could see from the beginning, has an excellent potential for recreational development. Due to its close proximity to several large population centers and to the fact that here, for the first time in Arkansas, on a Federal lake, property could be privately owned almost down to the shoreline. This fact also created a serious potential water pollution problem, since there is a possible 300 miles or more of privately owned property equipped with septic tank systems. This indicated that immediate action should be taken by local and State authorities to insure that the lake would remain clean, clear and pure from the beginning. There are 15 public use areas created by the Corps of Engineers. Eight of those include commercial dock facilities. Each of the use areas when fully developed will include facilities for picnicking, camping, and boat launching. Drinking water is provided from drilled wells, with hand pumps in most cases, and toilet facilities are of the pit type. I might say that the Corps of Engineers has done an outstanding job, in our opinion, of keeping the parks clean. I receive this comment every week from almost all of the tourists with whom I come in contact. They like the fact that these parks are being kept clean.

The principle overnight tourist accommodations and other commercial facilities are presently located in Heber Springs and in the Narrows section of the Lake. Several large and small additional facilities and developments are being planned or under construction or being proposed. A large Federal trout hatchery is almost completed in the area just below the dam. This is scheduled for completion about the 15th of June. In addition a tremendously spectacular fountain display in that same area has been proposed and is now under consideration.

Prior to construction of the Greer's Ferry dam, the Greer's Ferry area, and Heber Springs in particular, was best known for its mineral springs and as a health resort. Like many other resort areas of this type, it is being bypassed for broader recreation-oriented areas and facilities that become established elsewhere. But construction of the dam and impoundment of the water in the lake has again brought this area in line with what the public wants, along with an entirely new economic base. The leaders of the area are now challenged on how best to guide this development and utilize these resources to make the most of their economic impact on the economy of the area.

In recognition of this challenge the City of Heber Springs and Cleburne County, along about 1958 or 1959, created a joint city and county planning and zoning commission under Act 186 of the 1957 General Assembly and engaged the City Planning Department of the University of Arkansas to prepare a series of planning guides for the joint use of the city and county. This joint commission consists of six members from a city and three members from the county. The original planning area included a tract of about 10 miles square around the city. It runs all the way from the dam to Eden Isle. In this connection, the University of Arkansas prepared a master land use plan, with major street and highway, subdivision regulations, zoning maps, and zoning regulations, which was adopted by the city and county. For the first time in Arkansas, and probably for the first time in the United States, zoning and planning have been accomplished by a city on the shores of a major impoundment. The National Planning Association has told me that this has not been done before.

At the present time Cleburne and Heber Springs are working in very close harmony to guide the development of the planned area in accordance with our adopted regulations. It is working very well. We're hoping that this planning area can be expanded to include all of Cleburne and Van Buren Counties in the future, in order to insure orderly development along the entire lake shore area. Prior to adoption of county-wide regulations, it became apparent that without some type of controls lake shore subdividers would tend to create small lots with insufficient area to safely handle a well and septic tank disposal system. In fact, a few subdividers had already established these, with some lot areas as small as 8,000 feet. With guidance from the Arkansas State Health Department, a minimum lot size of 16,000 square feet, where a well and septic tank were both to be used, was established by the Planning and Zoning Commission in their regulations. This is enforced by cooperation of the County Clerk, who will not accept a subdivision plat unless it has Planning and Zoning Commission approval, and the Commission will not approve it unless in their opinion it has sufficient area to accommodate a well and septic tank system. Most of the developers have been very cooperative in conforming to these regulations. Once they were educated to the fact that it was necessary, they automatically came in with their plats for compliance.

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In creating the reservoir, the Corps of Engineers recognized its responsibility to the city to replace the existing city water public pumping plant. The old plant was located on the Little Red River, just northwest of town. The old plant would now be under almost 200 feet of water. But prior to the filling of the lake, it was rebuilt through a cooperative effort between the Corps of Engineers and the City of Heber Springs. And it provided for an unlimited supply of pure clean water, enough to last us forever. We have a pumping capacity of about 700 gallons per minute and storage of about one half million gallons. City water lines have been extended in the past three or four years to a distance of approximately 15 miles outside the present city limits at no cost to the city. These extensions have been paid for by private developers and then turned over to the city. Most of the areas where water and sewer lines have been extended are now in the process of being annexed to the city.

Following extension of the water lines and sewers, the development and growth of those areas has been greatly accelerated by the availability of the utilities. The area most likely to expand was recognized as the area immediately north and west of the present city limits. Several subdivisions were laid out and many lots were sold in that area within a half mile to a mile of our water intake structure. The State Health Department recognized the danger of polluting our water supply with septic tanks, and asked us to restrict building in that area until a sanitary sewer system could be constructed. This we did. Immediate steps were taken to organize a sewer improvement district, rural improvement, in that area. A district was formed and bids were opened early this month for major sewer improvement. A water pollution control grant in the amount of about 50,000 dollars was obtained to supplement bond issue of the improvement district. As soon as the sewer line is completed there will probably be at least 15 fine homes started immediately in that particular section. Property values in that area will increase substantially. Annexation of the area is almost completed. This is all being done by voluntary petition of the property owners.

The City of Heber Springs until recently was nearly all down in the valley, with hills on both sides. Since the lake has been formed, most of the growth has occurred to the north and west. Our old sewer system was designed to take care of the low-lying area of the town, but with the addition of all the new homes up on the high ground, a tremendous problem was created when all the sewage was dumped down in the low areas. During a rain we had a lot of infiltration into the lines and sewage would come out of the manholes and into the homes through the bathtubs, and so forth. For several years prior to this, our city sewage was fed into an obsolete, inadequate treatment facility located southeast of the town on Sulphur Creek, which runs southeasterly through the city and empties in to the Little Red River about 2 miles east of the city limits. This treatment plant became grossly overloaded to the point where it was no longer used, just bypassed. Raw sewage was permitted to flow into the creek and subsequently the river. During dry weather, when there was no rain to flush the creek out, the raw sewage accumulated in large quantities and became an odorous major health hazard that could be detected for several miles around. The outfall lines running from the city down to the old treatment plant were too small and caused many problems when the sewage backed up in all areas of the low-lying part of town. All together it was a pretty bad situation.

In 1959, the city purchased sixty acres of land about 1 mile southeast of town and constructed a 17-acre oxidation pond, along with a new 36-inch outfall line from the city. We had some water pollution control funds to use in connection with this project. Completion of this project not only eliminated the undesirable situation in the city but also helped to insure that the Little Red River below the dam would remain relatively unpolluted for many miles down stream. Trout fishing will start below the dam this Fall and will provide recreation for millions of people in the next few years. So this was an important step.

About four years ago we realized that our city-wide plumbing was in pretty bad shape because we had not adhered to any plumbing code whatsoever. So we adopted the State Plumbing Code and hired a full-time plumbing inspector. He's been on duty ever since. Enforcement of the Plumbing Code is extended for several miles around the city limits. Anyone who connects to our water lines must conform to the Plumbing Code and must be inspected by the City plumbing inspector. This includes the Eden Isle project about four miles west of town, which is on our city water supply. In general, compliance with these regulations has been excellent, but with some exceptions of course. At the same time, hundreds of violations have been avoided because the inspector was on the job. But it will take many many years to eliminate the bad things that went in before.

Our lake probably has more large houseboats and large cruisers than any lake of its age in the United States. Without control, those could have created a pollution problem. However, when the houseboats first begun to appear, the State Health Department required them to be equipped with sewage treatment devices.

One of our most pressing problems, county-wide and lake-wide, is the disposal of garbage. Heber Springs operates a city dump about a mile south of town which is used actually as a two-county dump. Everyone in Cleburne County, part of White County, and about half of Van Buren County, bring their garbage here and dump it. It is also used by the Corps of Engineers for all 15 public use areas around the lake. These facilities are greatly overtaxed. The City budget permits only a part-time attendant at the dump, who is also our city dog catcher, so he cannot possibly supervise properly the dumping of garbage. We don't have a bulldozer, and can't afford one at the present time, so we have no way of keeping this thing properly cleaned up.

About once every week or two we hire a bulldozer at the cost of about a $100.00 to go in and push all the refuse over the edge so that it can be burned. The dump area is badly infested with rats, in spite of an active poisoning program. We use chemical sprays for odor and fly control. We do hope to be able to go into a regular sanitary landfill program when more funds are available next year. But this won't completely solve our problems. Other dumps are needed, particularly in the Narrows areas where all the new facilities are being built and in Van Buren County. I hope some day to get the County Judge up here to recognize the fact that our dump is a county dump, rather than just a city dump, and give us some help.

Our dog problem is very bad. I don't know why it is, but for some reason people from several counties around bring their dogs in and leave them. We have a dog catcher and in the first three months he was employed he destroyed 400 dogs. But they're accumulating faster than we can keep up with them. Our dog catcher keeps any dog that's obviously a pet or a hunting dog, and tries to find homes for them before destroying them.

We don't have a great number of restaurants in the area, but we expect several new ones to be built soon. We have a lot to do in this field and we do not have an organized county health department. We have a very busy doctor in town who is the county health officer and we have a county health nurse. But we do nothing at all in the way of inspecting food handlers and restaurant facilities. This area needs some attention.

I feel that the most important step we have taken in our area is planning and "selling" our county-wide control of subdivision regulations. The only thing that we really control in the outlying areas is lot size, but that helps. I believe that the regulations have contributed greatly to good sanitary practices. These controls have greatly encouraged a much more orderly and higher class of development than would have been otherwise possible. Real estate values are higher and will remain at a high level because of these regulations. Of greatest importance, I think, is the fact that we are maintaining, through the cooperation of all agencies, a clean lake for our city water use, for water sports, and for production of fish. We intend to exert every possible effort to maintain it in this manner in the future.

WATER SPORTS SAFETY - Daniel P. Webster

One of the many facets of the problem of safety in and about our water areas is the lack of reliable and complete national, State and local information about the causes and circumstances of accidental drownings. Another is the many changes which appear to be taking place as to exposure, and the victims of drowning. A third need is to refine and to implement the approaches which health, educational, safety, recreational, conservation, youth and other agencies and organizations working together can take to change the habits and actions of people which cause them to become involved in drowning situations. Finally, in the belief that our greatest opportunity in drowning reduction is with and through our youngsters, we should place maximum stress on education and training of the young.

In the area of information about numbers, circumstances and people who are involved in drownings, we unfortunately have had very few scientific studies upon which to develop sound, productive programs. Drownings, as we know, are the second leading cause of accidental deaths in public places. We may wonder why we have not had more studies in this area, and we should encourage research in causation and prevention wherever we have the opportunity, particularly on a State and local basis. Information on a national scale may be helpful, but local information is most important. A study based on information from death certificates is available from the University of Georgia.

A continuing study about which many of you are familiar, is being carried on by the Council for National Cooperation in Aquatics. This is the first comprehensive study, to my knowledge, which deals with near drownings, in which data are collected both from the revived victims and their rescuers which relate to the circumstances and provide pertinent information surrounding the accidents. A copy of this report can be obtained from the Water Safety Service of the American Red Cross, Washington, D. C.

Two State health departments have recently undertaken projects to produce new information in this area. There are relatively few State health departments which give much of a breakdown as to the extent and nature of the problem within their own States. There are others, such as California, Florida, and Ohio, which are now doing this. Assessment of the problem is a logical starting point for any health department. Basic items of information about drownings from death certificates or other sources should at least include a breakdown of drowning by month, age, sex and by the type of facilities in which the incident occurred, and can provide invaluable guidelines.

As an example, I wonder how many of you know how many drownings occurred in home pools, motel pools, major lakes, or in other areas in you own State last year? We also need this information for the Nation as a whole. We do have a few examples of reporting systems which presently are in effect. The required accident report of the U. S. Coast Guard for drownings associated with boating accidents produces much valuable information.

My next point concerns changes in exposures, and the people involved in drownings. We are grateful that over the past two years, and last year in particular, there was a reduction in drownings associated with boating. We may not know all of the reasons for this reduction but considerable credit must be given to the U. S. Coast Guard, to the State Boating Law Administrators, and to the various boating and yachting clubs for their efforts to make better sailors or boaters out of people.

Unfortunately, offsetting the gain which has been made in boating safety are some changes due to new exposures or involving other people. What are some of these? One is the tremendous lakes and reservoirs which suddenly appear as if by the magic of Aladdin's lamp in areas which previously may have lacked any sizable water areas. Another concern people not accustomed to or experienced in their use. There is a great challenge to educate people as to wise and safe participation in these facilities. Lake Lanier in Georgia, which was filled as recently as 1956, already has claimed the lives of more than 74 people, and at least four other bodies have never been recovered. One aspect of the problem is that many of our artificially created lakes are developed in forest areas. In some instances the practice has been to top the trees just below normal water level. Due to the depth and coldness of water, victims sometimes become entangled in this undergrowth, and some are never recovered. Lake Texoma on the border of Texas and Oklahoma, which was just 20 years old on April the first, recorded its 137th drowning. These figures are mentioned only to point up a changing problem introduced to the American scene over the past 20 years.

The farm pond is another problem area. Farm ponds which were originally intended for water conservation including the watering of livestock, irrigation, and fire protection, now number over one million, with 200,000 being created annually. It is now quite common to find them stocked with fish, equipped with boats and mooring docks, and with diving boards. Here again, we have an additional exposure.

The swimming pool is a new luxury in American life. In some areas of the country they really aren't considered a luxury - in the Los Angeles suburban area two out of every three homes being built have swimming pools - but are accepted as a part of normal construction. Initially, the great increase in home pools took place in such States as California and Florida. Now the proportionate increase is in the central states, and is still spreading. A few facts and figures will point quite clearly to this increase. In 1950 only 2,500 of the 12,000 permanent pools were of the home type. Today, it is estimated that the number of home pools is approximately 400,000, with 50,000 being built each year.

Another problem area is the apartment, hotel and motel pool. We know that people who stay at motels with swimming pools very often do so because they have youngsters with them and the youngsters want to swim. It is amazing to find that one national motel chain now has more swimming pools than all of the YMCA's. This is another change in American aquatic life and the exposure to drownings. In the Washington, D. C. area, and I am sure in other areas also, we are finding more and more indoor pools being built in high-rise apartments, resulting in a new aspect of drowning.

For years, we have pointed the finger at the 15 to 19 year ages as being the peak group for accidental drownings. This may still be true, but the years from birth through age four are now about equal in frequency of drownings. This has been a change due to some of the previously mentioned factors. We do know that the greatest single year of life at which accidental drownings occur is at age one, followed by age two. This is a tremendous loss of human resources. To bring out this point, a boy of age seven who drowns will never have the opportunity to live out the other 60.7 years of his average life expectancy. He will never be able to give to society approximately 48 years of productivity. If we somehow could convey the message of this tremendous loss of life years and productive years we may be able to make more progress in achieving our drowning-prevention goals.

Just as there are many causes that contribute to drownings, we know that there is no single preventive action which can be taken to prevent them from occurring. There are certain accidents which we describe as freak or unusual. Some drownings occur as a result of normal actions of children and youths, such as the two boys of age four and five who scaled a six-foot board fence and drowned in a home pool. I am sure this event was beyond the reasonable expectations of the pool owner and parents. It does bring home a point that if a fence can be climbed a child will find out how to climb it. It makes us wonder how high a fence needs to be to provide a positive barrier against little children. Another example of the need to guard against the freak accident is that of the toddler who crawled onto the protective tarpaulin stretched over a home pool and drowned in about 3 inches of accumulated rain water.

Many others could be related. A boy who found his way through a chain link fence and then broke through the board covering into the water of what had been an old oil storage tank. A mother who drowned with her four children when her car skidded on an icy bridge, went over the railing and crashed through the ice on a creek below. But even in these incidences there are some factors which come into play, notably the factor of supervision, and swimming instruction for youngsters at the earliest possible opportunity. The major factor of drownings of youngsters under age 10, as shown, is the temporary lack of supervision. In California, which reported 100 home pool drownings in 1963, the majority of the victims were unattended children.

Some of the approaches which we can take, cooperatively with other agencies and organizations, to help reduce the rate of drownings are those in which the individual through education voluntarily takes action to participate in water activities in a safe manner. A second approach is the involuntary or legally required measure. Voluntary action depends on the person's will or desire to do something. In the involuntary aspect of activity, the key relationship must be enforcement. Legally required actions of people are only as effective as the ability to enforce them. In California it was discovered that something like 60% of all drivers who had their drivers' licenses revoked or suspended were still driving. The enforcment problem is one reason lawmakers have been reluctant to pass laws which require operators' licenses for power boat operators.

The reporting of injuries in recreation is always going to be difficult. The recording of drownings, fortunately, is compulsory, and we may be able to strengthen this by gathering better information through the use of a supplementary report to the death certificate. We know that information gathered from death certificates may leave many gaps in items of information to which we would like to have answers. There is available from the Public Health Service's Division of Accident Prevention a suggested supplement to the death report for drowning.

In regard to equipment and facilities, we need realistic specifications and standards applicable to water sports. We have long been waiting for voluntarily developed standards for scuba equipment. We feel that if both industry and users can agree on standards, they will be better accepted and compliance will be broader. However, if the voluntary approach does not produce action, codes and regulations may be the result. An example is the code for pure air for scuba diving, as established by the New Jersey State Department of Health through an act of legislation. Requirements for life jackets and preservers such as we find with the U. S. Coast Guard, and for the affixing of plates stating capacities of boats, are others.

Knowledge and skill has traditionally been on a voluntary basis. In water sports there are very few legally required training or educational courses. The instructional courses which are given both in knowledge and skill by such groups as the YMCA and Underwater Society of America in Scuba Diving are basically good courses. Courses of instruction in basic drowning-prevention skills leave much to be desired in reaching more people, particularly those who most need it! Over the past two years we have enjoyed some fine experiences with health departments which have conducted demonstration projects. In one State, a project was initiated to determine the feasibility of portable swimming pools in elementary schools during the regular school day, for teaching fourth graders basic knowledge and skills in drowning prevention.

In other places, "Operation Waterproof 4th Grade" has made use of community facilities, after school, immediately after the school year, or during holiday recess periods. In the City of Little Rock there is an instructional program along these lines which was inspired by a local newspaper. I think a great service can be rendered by this type of instruction to youngsters because the mere ability to float or to paddle a few feet could in many instances mean the difference between life and death. Most drownings occur within a very few feet of safety.

There are certain aquatic sports in which we need to know if a person is competent. This falls both into the voluntary and involuntary areas. We normally refer to the voluntary approach as that of certification. We see it in the American Red Cross Beginners' Life Saving and Instructor's certificates.

The Underwater Society of America issues a wallet card when a person completes an approved course in underwater diving. While these do not have legal connotations, many times because of the status that the certificate bestows upon its holder, it has much the same effect.

Legal applications include those States which require a life saving or water safety instructor certificate for employment, as a lifeguard. Considerable study is needed in the area of licensing and inspection. In the licensing of air suppliers of scuba air, only one State at the present time has this requirement. The matter of licensing boat operators is bound to come up again. I personally feel the need for reasonable controls for pools of various types in order to assure that they meet both sanitary and safety standards, and that this should include private pools.

Rules of the road have for the most part been a matter of voluntary action on the part of the individual, either because he has pride in his aquatic ability or seamanship, or the status which it gives him by setting good examples of safe practices. We need to get more into local regulations and laws related to the zoning of water activities in specified areas. One of the first steps towards drowning prevention, in addition to supervision, is the dissemination of information. This is especially important when the information relates to a given body of water and some of the unique features and hazards which may not be understood by the visitor.

ADMINISTRATION OF RECREATIONAL AREAS AND FACILITIES - Bernard T. Campbell

By now, we should be well-informed about sanitation and safety. Able men have spoken to us on these subjects. I will not bore you needlessly with repetition.

Our Director, George Hartzog, has stressed public health and safety within our Bureau. Currently, we are conducting a safety contest involving our five regions and more than 200 parks.

Last year, over 111 million persons visited our parks. While they are our guests we are vitally concerned with their health and safety.

Methods of sanitation and safety in the National Park Service are diversified, for they involve areas like the forested Smoky Mountains, the sands of Death Valley, a parkway along the Blue Ridge, the vast waters of Lake Mead, a health spa at Hot Springs, the shoreline of Cape Cod, and the colorful coastal waters and sawgrass of the Everglades.

Today, the administration of our recreational areas is indeed a challenge. Secretary Stewart Udall has said,

> "Preserving the scenic and scientific grandeur of our nation, presenting its history, providing healthful outdoor recreation for the enjoyment of our people, working with others to provide the best possible relationship of human beings to their total environment, this is the theme which binds together the management principles and objectives of the National Park Service -- this for the National Park Service is the Road to the Future."

A brief history of the National Park Service will explain why we administer the areas as we do and why changes periodically occur.

I am sure most of you know that Yellowstone National Park, established in 1872, was the first of its kind in the world, set aside for all of the people.

Thereafter, a good number of national parks continued to be established. Congress realized that some Bureau must administer these superlative areas. To do this job, it established the National Park Service on August 25, 1916.

In the Act, Congress directed the Service to conserve the scenery, the natural and historic objects, and the wildlife. Further, it said, let future generations enjoy these parks, but do it so that the areas remain unimpaired.

I wonder if the authors envisioned millions of visitors -- an expected 180 million to Service areas by 1980. With the mass movement of people to the outdoors, all of us in conservation are faced with the need for better management.

The Executive Order of June 10, 1933, transferred parks and cemeteries from other Government agencies to the Department of the Interior. The Historic Sites Act of 1935 and the Park, Parkway, and Recreation Study Act of 1936 added responsibilities to our Department.

In recent years, Congress has authorized National Seashores and a National Riverway, recognizing the public desire for this form of outdoor recreation and the need for such Federal areas.

It is clear that Congress included within our growing Service three categories of areas: natural, historical, and recreational. It is also apparent that today a single, broad, management concept for the three areas is inadequate, either for proper preservation or for use.

Last July, Secretary Udall provided management guides for our areas. Natural areas would be maintained unimpaired for the use and enjoyment of our people.

Historical parks would be preserved and, where necessary, the historical integrity restored. Visitor use would be encouraged, but controlled when needed to protect historic resources.

Recreational areas would normally foster swimming, boating, fishing, hunting, and camping -- stressing active participation in a pleasing environment.

Just a few days ago, Director Hartzog stated that our national parks must be models of beauty for Americans throughout the Country. He urged us to meet with people like you and, in effect, become missionaries for a beautiful America.

I wonder how many here have read the Public Health Service publication, "Environmental Health Practice in Recrational Areas." It lists problems peculiar to these areas. Among the first is the irresponsible visitor.

It is difficult to understand why people steal mirrors and vandalize plumbing within comfort stations. It is even more perplexing to know why someone would set up quarters in a restroom. Strange as it may seem, we had a visitor lay out an electric blanket on a restroom floor, plug it into a light socket, and get set for a pleasant winter snooze.

In our Service, as it is likely in yours, vandalism often goes beyond items of sanitation and health. Writing and carving on park structures and signs is a common complaint. This unsavory practice can be overcome.

The major job is to first eradicate the marks. You then must gain the visitor's cooperation. Newspapers, radio and TV stations, and civic organizations are all glad to help. Should marks re-appear, remove them promptly or if the person responsible is apprehended, take him to the appropriate judge. I know this method is effective, for I have seen it done successfully at several parks.

One other thought, add a register, if you can. This will give people a book in which to sign their names and addresses instead of marking the building.

I remember another approach, which I leave to your judgment. An attractive sign was thoughtlessly ruined with initials and names. Finally, it had to be replaced at considerable expense. At the time, a small bush was placed beneath the new sign, with the warning plaque on the bush, "Poison Ivy."

The previously mentioned Public Health Service booklet comments upon the problem with animals, reptiles, and insects, especially from bite or sting, and scattering of refuse.

I sometimes wonder if protecting the wildlife from the visitor is not equally as great a problem as safeguarding the person.

While I was stationed at the Everglades, I recall seeing a mother place a small child on the back of an alligator in order to take a picture. Then there was the man in the Smokies who wanted to get an unusual view of his wife. He coaxed a bear under the sterring wheel of the car while his wife sat beside the wild animal. Fortunately, the bear only clawed the car upholstery when the camera flash frightened it.

I suppose Hot Springs National Park has as many, or more, problems in public health, sanitation, and safety than any other area in our Service. It is recognized as a spa throughout the world.

The thermal water of 47 springs, flowing about a million gallons a day, is caught in park reservoirs and pumped to seventeen concessioner bathhouses, and the physical medicine center within the Park and the city.

Approximately one and three-quarter million persons visit the Park annually, to whom about 360,000 therapeutic baths and treatments are administered.

A Federal Registration Board of five physicians is appointed by the Secretary of the Interior and an Examining Board for Technicians is appointed by the Superintendent. Both Boards help the Superintendent in the administration of the bathing industry.

As you well must realize, administering this park requires close cooperation with the Public Health Service, the Garland County Medical Society, and physicians.

John Muir, the great conservationist, had this thought about natural beauty, with which I close,

> "Everybody needs beauty as well as bread, places to play in and pray in, where Nature may heal and cheer and give strength to body and soul alike."

SAFETY RESUME - William J. Holland

It is my responsibility to give a very brief resume of the safety or accident prevention aspects of this most interesting and most valuable conference. In order to do this I will have to slightly overlap other areas because one of the major themes of this conference has been the interrelationship and inseparability of accident prevention and sanitation in a recreation area.

The State of Arkansas, and Mr. Kellogg's leadership, in calling this conference was very timely. The time of the year is pertinent, the interest at all government levels in this area is cresting at this time and obviously, as judged by the people who are sitting right here, there is a desire on the part of all agencies to start to do something in this area. And the beginning of doing anything, as Mr. Kellogg pointed out when we were talking about the development of this program is to first of all discuss it.

The objectives of this conference, as set forth by Mr. Kellogg, were to bring about a free discussion among those agencies and individuals responsible for the planning, development, and operation of outdoor recreation areas. These objectives embraced four important points: (1) To discuss the total impact of recreation and travel industry upon our way of life; (2) to discuss the interrelationship of recreation and good health; (3) to discuss the present and projected sanitation and safety problems in recreational areas; and (4) to discuss sound means of assuring present and future generations the highest quality of a safe and healthful recreation environment through planning and program action which starts today. I used the term "to discuss" at the beginning of each one of these points because I reiterate Mr. Kellogg's feeling that discussion is the preamble to action. To realize these objectives Mr. Kellogg suggested that we must in a cooperative manner face the problems, plan better facilities, and see that they are maintained. He suggested that the public will not tolerate an insanitary and unsafe "Jerry-built recreation environment."

References to the President's White House Conference on National Beauty, which convened this week, the discussion of recent developments in the Land and Water Conservation Fund, Dr. Herron's announcement of Governor Faubus' declaration of a Recreation, Sanitation and Safety Week, and the learning of Mr. Jaynes' first-hand experiences which spotlighted some of the most pressing sanitation and safety problems in recreation areas, have keynoted the pleas of all speakers for planning. The development of sound programs to control these problems brought very rapidly into focus a sincere interest of both official and non-official agencies on the Federal, State and local levels, in the objectives of this conference.

There was a parellel theme that ran from the beginning of the conference to its conclusion, that theme being the necessity to work cooperatively and to plan adequately, in order to meet the problems we have been discussing for the past two days regarding specific accident problems in recreation areas. Speakers suggested three important points: (1) Each recreation area and each recreation endeavor has accident potential, but through problem definition, planning and sound action programs these potentials can be both anticipated and reduced, making a recreation experience far more enjoyable; (2) The accident potentials are particularly apparent when we start to consider the age group and the people who are utilizing the facilities that are being developed. Areas which are not hazardous to an adult may very well be hazardous to a small child or to the elderly person. (3) The type of accident potentials can be anticipated when we consider the recreation environment.

Questions from the floor were asked. What about housing, what about zoning? If we understand the housing area, the farming area and the water area, we can perhaps plan out the potential accident hazards that exist in them. Mr. Davey made a very important point of "declaring the use." By declaring the use he suggested that farm ponds can be safeguarded through environmental control and educational controls in the very beginning, but in order to do this there is a necessity to plan accident safeguards into design.

Specific problems were discussed. Problems associated with trailers and mobile homes, problems of carbon monoxide poisoning and problems of fire were obvious. Camp and picnic sites problems may be more subtle. Concerning use of land and water, insecticides and rodenticides, and swimming pools. Mr. Webster made a rather pertinent point when he related the story of two small children who scaled a wooden fence, went into a swimming pool, and drowned. Obviously the fence might have been high enough, but had the person who designed it considered that the real objective of the fence was to keep small children out of the pool when it was not supervised, maybe a basket-weave fence, that was a perfect ladder for a child never would have been build.

Mr. Lehr made the sobering point that one hundred and sixty million Americans will frequent our recreational areas and five to six thousand of them will not return next year. Axiomatically, some deaths and some injuries will occur, but Mr. Lehr suggests that many of these needless deaths can be reduced and that to reduce this human cost ot a minimum is a major challenge to us today. He made the important point that in order to make a recreational area safe as well as sanitary it need not be sterile nor unenjoyable. Indeed, it is possible to make it more enjoyable by making it safe and sanitary. He pointed out that there are obvious hazards and that we can take care of these rather quickly. But there are less obvious hazards that require the knowledge and the skill and the understanding of professional people to reduce the not so obvious hazards. He said that in order to do this we need studies to understand the problem. Mr. Kellogg brought forth the point that in order to get this information, we (the participates in this conference) as professional people interested in recreational area problems, are going to have to do it.

Identification of the less obvious problems was also stressed by Mr. Webster in his discussion. The point was made relative to poisonous plants and poisons that may be ingested or absorbed by people in recreational areas. Much interest was evident in the area of poison problems. There was one point that was not brought out and I would like to take the opportunity to do so. That is, if any of you are not acquainted with the Poison Control Centers and the Poison Control Program there is a directory available on Poison Control Centers. It is available to you at your request through Mr. Burrus McGuire, Accident Prevention Regional Consultant, in Dallas Regional Office of the U. S. Department of Health, Education, and Welfare.

Mr. Shelton suggested earlier that where was a breakdown in compliance with regulations in certain areas, such as in heating and ventilating facilities and in housing requirements. These areas are very very important when considering accident potentials. I thought it was very interesting when the point was brought out that planning and zoning become inter-twined in the progress around a newly developing recreation area community.

To conclude this resume, we are charged with protecting the health and safety of travelers while they are enroute and when they reach a recreational area. Our challenge is to redouble our present efforts to enable the traveler to reap full enjoyment from recreation areas. But there are questions that plague us. Whose responsibility? Where do we go from here? What do we do? These are the challenges before this Conference. If it ends here, two days have been wasted, two days of valuable time. If accomplishment can be realized it will have been time well spent.

SANITATION RESUME - G. T. Kellogg

My resume is going to take a little different tack than Bill's because I am struck by the similarity between the sanitation and recreation areas and transportation. Now, perhaps, some of you will say that there is no tie-in between the two, but let me remind you of this. Sixty years ago man moved at the rate that a horse and buggy could travel. The maximum a horse could possibly travel was forty miles an hour. Today we're traveling at speeds of better than 17 thousand miles per hour. From horse and buggy to space. Now take our recreational areas. What did we do with transportation? We developed the car and with the development of the car came the roads and the opening of new areas to us. Then came the plane that opened further areas to us. Through invention we made ourselves a traveling public, but did we keep pace with the development of our areas?

I think that through this Conference we showed ourselves that we didn't. That was the challenge that came out to me. That here we offered an invitation to the American public to come and play in our areas. That's all we did -- we offered an invitation. We gave no thought to where we were going. We gave no thought to the comforts that they had at home and that they are going to demand from us now. The United States of America loves its comfort. The challenge, as I see it in the sanitation field, is: Are we flexible? Are we progressing? Can we adapt ourselves to this modern trend? Shall we remain back in the Chick Sales privy days or will we advance?

There has been mention of a challenge here. What is life without a challenge? Is it worth living? Isn't that why we are living? Because of the challenges? I think that when we get this thing down and take it back home and look at it, we will see the emphasis that the many agencies are placing on recreation. We at the Health Department are only one agency. Our contact is with the managers. It's with those who operate, who develop the recreational areas. It would be nice to go back and live in the past. Go back to the time when we had a simple environmental problem to solve. But to me that is not sanitary engineering. Can we meet the demands of the public?

I realize in a two-day period you can cover a lot of the waterfront. But being a bass fisherman doesn't necessarily mean you are on the best shoreline. There are many coves back there. Many an overhanging bow. Many stump or twig where that bass lives. I think that in future conferences we'll have to delve into some of the more specific problems.

Mr. Jaynes asked for your comments. I endorse that. I think that there will be many more of these same programs. I think there are many more areas to discuss. I know that many problems are not answered, but through your coming here, through the interchange of ideas, we are in far better shape than when we left home. Now all we have to do is take back with us some of the ideas we have heard and put them into practice. Your health department stands ready to cooperate in any manner. It stands ready to provide what services it can with the manpower available to it. Sanitation is a way of life. As such, it must come from within the people. Carry that home with you. Think it over, and then next year let's come back and discuss new problems.

WEBSTER: Earlier I was thinking that a future confernce might be a working conference. A rather important objective might be to put down basic guidelines, with some priorities or specific objectives. What are the main problems we see in health, sanitation, and safety, and of these, which seem to be the most pressing?

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